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RELATIVE EFFECTS OF A ROLE PLAY PROGRAM AND A VIDEOTAPE MODELING PROGRAM IN ALTERING SEX-RELATED OCCUPATIONAL ATTITUDES IN FOURTH AND FIFTH GRADE STUDENTS

by

© KAREN C. EAMON

A THESIS

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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF Doctor of Philosophy

IN

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Karen Eamon

11720 Edinboro Road
Edmonton, Alberta

Date: December 23, 1985

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled RELATIVE EFFECTS OF A ROLE PLAY PROGRAM AND A VIDEOTAPE MODELING PROGRAM IN ALTERING SEX-RELATED OCCUPATIONAL ATTITUDES IN FOURTH AND FIFTH GRADE STUDENTS submitted by Karen C. Eamon in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Educational Psychology-Counselling.

Peter Calder
Supervisor

J. Paterson

Gay L. Bisanz

Dr. J. Fitzsimmons

James Blakey

Betty J. Newlon
External Examiner

Date Oct 7, 1985

dedicated with love to my family
and the memory of my mother

ABSTRACT

The hypothesis that a role play program and a videotape modeling program may be significant in altering career attitude, career information, and career interest was examined in the present study. A classroom role play program and a classroom videotape modeling program were developed and implemented with 139 grade 4 and 5 children. These children were divided by grade into role play groups, videotape modeling groups, and control groups. A six lesson classroom role play program and a six session classroom videotape modeling program were evaluated by students, teachers, and parents. Statistical testing was conducted in order to determine the effectiveness of the two classroom programs in generating nontraditional career attitudes, teaching career information, and developing career interests toward nontraditional occupations. The stability of the effects of these classroom programs over a 7-week period was investigated.

Students, teachers, and parents found these programs to be appropriate for children in grades 4 and 5. Based upon the posttest performance on a sex role attitude test, those children who participated in the classroom role play program obtained significantly greater mean scores on this measure of occupational liberality than children in the control group, $\underline{F}(2, 115) = 3.68$ $\underline{p} < .05$. Based on the posttest mean scores and the 7-week follow-up mean scores on a career information questionnaire and on instructed items, those children who received the classroom videotape modeling program obtained significantly greater mean scores on these measures of career information when compared to the role play group and the control group. These results pertained to specific career information presented in the videotapes (instructed items) and generalized to other occupations not presented in the videotapes (noninstructed items).

Change in attitude of the children in the role play program toward occupational liberality was maintained over the 7-week period between the posttesting and the follow-up testing. Although retention of career information significantly decreased over this 7-week period, the mean scores of children in the videotape modeling group were still significantly greater than the mean scores of children in the role play group and the control group.

The role play program was a more effective means of changing career attitude towards sex role occupational liberality while the videotape modeling program was a more effective means of providing career information.

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I. Introduction

Historically, division of labor and the assignment of status on the basis of gender have been present in all societies. It is generally accepted that traditional role assignments, according to gender, have been transmitted through the socialization process. Role divisions are reinforced through the imposition of sanctions when behaviors and attitudes contrary to culturally prescribed patterns are exhibited. It is through this process that certain occupations are reserved for males while others are reserved for females (Albrecht, 1976).

"It is the educational process which helps individuals to develop awareness of their own unique interests, capabilities and values as they apply to the world of work" (MacCulloch, 1980, p. 2). Many children have already developed attitudes labeling occupations as being related to males or females by the time they enter elementary school. Occupational interests narrow in the early childhood years as attitudes toward occupations become sex role stereotyped. In several studies involving preschoolers between 3 and 6 years of age, children typically sex-typed occupations for themselves (Beuf, 1974; Papalia & Tennent, 1975; Riley, 1981; Taylor, 1978; Vandracek & Kirchner, 1974; Wanga, 1983).

In a study involving grade 2 children, Siegel (1973) found that approximately 70% of the girls selected the traditional female occupations of nurse and teacher while boys selected 20 traditional male occupations. Although the girls' narrow focus on occupations was evident, boys also limited their aspirations by excluding the traditional female occupations.

These results were supported in a nationwide survey of 11th-grade students. Over 50% of the female students selected vocational preferences from the three general areas of education and social service, nursing and human care, and clerical-secretarial work. Only 7% of the male students selected occupations within these areas (Prediger, Roth, & Noeth, 1974).

More recently, Barnhart (1983) investigated the sex role attitudes of children 6, 8, and 10 years of age toward occupations. The children in this study were shown 18 occupational settings through black and white photographs and asked whether a man, woman, or both could do the job. These occupational roles were judged in a traditional stereotyped manner. The following occupations were viewed as traditional sex-typed roles by 68% or more of the children: homemaker, firefighter, garbage collector, truck driver, minister, secretary, and nurse. Similar findings were shown by Gregg and Dobson (1980) in the investigation of occupational preferences of children between the ages of 5 and 11. Children were given descriptions of 18 occupations represented by Holland's six work environments. Regardless of their age or sex, children were interested in traditional sex-typed occupations appropriate for their sex. While there has been easing of occupational stereotyping in recent years, vocational preferences are still restricted by cultural sex role attitudes. In another recent study Kenkel and Gage (1983) examined the occupational aspirations of students from low socio-economic backgrounds. Elementary and high school students were asked what they would like to be. While females chose from a narrow range of traditional occupations (teacher, nurse, secretary, beautician, and social worker), males chose from a broader range of traditional occupations.

According to several researchers, sex role occupational stereotyping tended to decrease with age over the school years (Archer, 1984; Garrett, Ein, & Tremaine, 1977; Kriedberg, Butcher, & White, 1978; O'Bryant, Durrett, & Pennebaker, 1978; O'Keefe & Hyde, 1983; Shepard & Hess, 1975; Umstot, 1980). After early childhood, girls were found to be more liberal than boys in their attitudes toward occupations (Archer, 1984; Jack & Fitzsimmons, 1979; Kriedberg, Butcher, & White, 1978; Shepard, & Hess, 1975; Teglasi, 1981; Termaine & Schau, 1979).

Sex stereotyping of attitudes and behaviors begins early in life. Of the roles that individuals fulfil during their lifetimes, the role prescribed on the basis of sex is acquired early and endures. Sex-typing frequently produces rigid and mutually exclusive conceptualizations of appropriate behaviors for males and females (Flerx, Fidler, & Rogers, 1976). The acquisition of concepts about sex roles is prevalent at the age of 3. Children develop preferences and have learned that there are activities and behaviors appropriate for each sex (Kohlberg, 1966).

As children are taught social norms they grow up conforming to these norms. Children come to believe that certain patterns of behavior are natural for males while different patterns are natural for females. Young children have definite ideas about the different roles their parents have within the family. Children differentiate tasks and duties into the stereotyped male and female roles. Albrecht (1976) found that parents' education levels correlated with sex role stereotyping. Sex role stereotyping was more likely to be found among those parents with less education. Related studies indicated that the father's educational level and occupation related to his offspring's educational attainment and with the offspring's occupational level (Blau & Duncan, 1967; Rehberg & Westby, 1967; Schoenfelt, 1968). In a longitudinal study of adolescents' occupational values, Perrone (1973) found that grade 11 students were able to accurately perceive their parents' values which also corresponded to the students' own values. Goodale and Hall's (1976) study indicated that boys' work values were more closely related to parental attitudes than girls' work values. In a cross-sectional comparison of parents and children in grades 6, 9, 10, and 12, Wijting, Arnold, and Conrad (1978) found that during the early years children tended to identify with the values of their like-sexed parents while by grade 12 both sexes tended to reflect values similar to their fathers' work values. Rollin and White (1982) investigated the relationship between mothers' and daughters' sex role attitudes and self-concepts. The daughters in this study were between 10 and 14 years of age. Results showed that there was a significant relationship between mothers' and daughters' attitudes toward marriage, children, and careers.

Hartley (1961) found that daughters of working mothers sex-typed fewer activities than did daughters of nonworking mothers. Hoffman (1974) found that children with working mothers tended to receive more independence training, to have generally higher career goals, to have less traditional concepts of sex roles, and to be more positive in their evaluation of female competence as compared to children with nonworking mothers. Almquist and Angrist (1970) found that career-oriented college females were more likely to have working mothers. These results are primarily found for daughters, "perhaps because employed mothers present a positive model of female achievement and because girls, under traditional child rearing, usually do not receive independence training" (Basow, 1980, p. 230).

It is within the family that children first discover those basic sex role stereotypes which will guide their behavior. The family is the first and probably the most important socializing agent (Combs & Snygg, 1959). While at first such identification takes place within the family, as children's experiences broaden their capacities to identify with significant others broaden to include peers and teachers. This socialization sphere extends outside from: mothers, fathers, siblings, neighborhood peers, classmates, teachers, and the influence of the media (e.g., television, videotapes, textbooks, storybooks, and films).

Vlamis (1977), for example, investigated the sex roles of characters in reading materials for elementary school children. Fifty selections in the Scholastic Pleasure Reading Library For Grade Three were analyzed. Males were predominant in titles, illustrations, main characters, and secondary characters. Ashby and Wittmaier (1978) demonstrated attitude changes in children after exposure to stories about females in traditional and nontraditional occupations. As predicted, fourth-grade girls who were exposed to nontraditional stories selected nontraditional occupations for females; whereas, girls who were exposed to traditional stories selected traditional occupations for females. Results underline the effects of nonsexist books and textbooks in broadening occupational aspirations. Similar findings have been shown by Ashton, 1983; Collins, Ingoldsby, and Dellman, 1984; Flerx, Fidler, and Rogers, 1976; Frasher and Walker, 1972; Hillman, 1974; Knell and Winer, 1979; St. Peter, 1979; and Weitzman, Eifler, Hokada, and Ross, 1972.

In addition, studies of television content indicated that there was a large extent of sex role stereotyping (Busby, 1975; Mamay & Simpson, 1981;

O'Bryant & Corder-Bolz, 1978; Sternglanz & Serbin, 1974). McGhee and Frueh (1980) have found that children with higher television viewing rates were more apt to hold traditional stereotypic views when compared with children who had lower television viewing rates.

However, the elementary school setting is the primary setting beyond the family with which children have contact during the formative years. It is during these years that attitudes, perceptions, interests, and skills are being developed. Often traditional socialization patterns are adopted by parents and school personnel when dealing with children. There are, consequently, limited opportunities for children to be exposed to nontraditional roles (Jack & Fitzsimmons, 1979). Occupational sex role stereotyping can be minimized in our society only if children are presented with alternatives at an early age. This type of education cannot always be accomplished in the home (Vincenzi, 1977). Changes in home socialization may be difficult to accomplish; however, at the school level career education programs can be implemented that will expose children to nontraditional occupations. Although this need for overcoming occupational sex role stereotyping among children has been explored, little attempt has been made to change these attitudes (Harris, 1974). Such programs need to be implemented at the elementary school level in order that children become flexible in their thinking with regards to occupations and thus perceive their occupational choices as being broad. With the minimization of occupational sex role stereotyping, children have the opportunity to develop to their fullest potentials. Options are left open and through the pursuit of these options needs can be met.

A. Overview of the Problem

The education system remains a primary agent of socialization, reflecting on the society it serves. A limited number of studies have involved the actual development, implementation, and evaluation of career education programs focusing on nontraditional occupational attitudes and interests (Bank, 1969; Eamon, 1983; Harris, 1974; Leith, 1977; MacCulloch, 1980; Vincenzi, 1977; Weeks & Potter, 1983; Weeks, Thornburg, & Little, 1977; Wolfe, 1977). Several types of programs were implemented by these researchers. A number of these studies involved guest speakers and role models (Bank, 1969, Eamon, 1983; MacCulloch, 1980; Vincenzi, 1977; Weeks & Potter, 1983; Weeks, Thornburg, & Little, 1977; Wolfe, 1977). MacCulloch (1980) utilized a videotape program entitled "Bread and Butterflies". Leith's (1977) study involved females viewing films of males working in traditional occupations. Eamon's (1983) study involved two programs, a role play program and a guest speaker program of nontraditional occupations. Further research recommendations by Harris (1974); Leith (1977); MacCulloch (1980); Weeks and Potter (1983); and Wolfe (1977) included the proposal that career education programs be developed to focus more specifically on changing sex role stereotyped occupational attitudes at the elementary school level.

Several research studies demonstrated the effectiveness of role play on attitude change (Bandura, Blanchard, & Ritter, 1969; Butler, Meizitisis, Friedman, & Cole, 1980; Haney, Banks, & Zimbardo, 1973; Klingman, 1982; Lira, Nay, McCullough, & Elkin, 1975; Mann & Janis, 1968; Taylor & Smith, 1972). Dailey and Haplin's (1981) and MacCulloch's (1980) studies demonstrated that videotape programs can produce effective attitude change. In MacCulloch's study grade 6 children participating in the videotape program entitled "Bread and Butterflies" made statistically significant gains in occupational liberality. Although no specific exercises were directed toward sex role liberality, over the course of the program these videotapes did portray males and females in a variety of nontraditional and traditional work roles (e.g., female engineer, male nurse) and stressed the equality of work roles in the home (MacCulloch, 1980).

B. Purpose of the Study

The purpose of the present study was to investigate the relative effects that two classroom programs, a role play program and a videotape modeling program, would have in altering sex-related career attitudes, sex-related interests, and career information of fourth and fifth grade children.

The two approaches utilized in the study were a videotape modeling program and a role play program. In the videotape modeling program, six individuals were interviewed with regards to their nontraditional occupations. The six individuals were: a female electrician, a female engineer, a female police officer, a male clerk typist, a male day-care worker, and a male nurse. In the role play program children were to act out nontraditional occupations.

School time is valuable; therefore, a career education program should generate research results which demonstrate significant positive change in sex-related career attitudes, sex-related career interests, and career information. A role play program is easily implemented in terms of preparation and school personnel. The sole personnel involved is the classroom teacher with lesson plans and program guidelines. A videotape modeling program is time consuming to produce but easily implemented.

If the implications of the study indicate that the role play program and/or videotape modeling program are relatively effective in terms of sex-related career attitudes, sex-related career interests, and career information, then these programs could be developed and implemented within the classroom setting. The discriminating feature of the role play program compared to the videotape modeling program is the establishment of personal immediacy through acting out roles. The role play program involves covert rehearsal reinforced by overt rehearsal while the videotape modeling program involves covert rehearsal (Bandura, 1977).

II. Selected Review Of The Literature

A brief overview of the major career development theories and behavioral career counseling theories is presented in this chapter. The literature exploring the development of career attitudes, career interests, and career information is reviewed as well as literature relating to occupational trends and early development.

The effects of covert rehearsal and overt rehearsal are addressed through social learning theory. The effects of role play programs and modeling programs on skill training and attitude change are reviewed. This is followed by the application of role play and modeling to career education programs in the school setting.

A. Theories of Career Development

A well formulated career education program is founded upon a rationale that takes into account the major premises of career development theory (Bailey, 1975). The main premises of six career development theories are presented in terms of implications for career education at the elementary school level.

Ginzberg, Ginsburg, Axelrad, and Herma (1951) proposed three stages of career development -- Fantasy Choice (ages 6 to 11), Tentative Choice (ages 11 to 18), and Realistic Choice (ages 18 to 23). The Fantasy Choice allowed children the opportunity to "try on" numerous make-believe adult work roles. Children, even in fantasy, could not choose jobs that they do not know about. If Fantasy Choices influenced later choices and if Fantasy Choices were influenced by knowledge and attitudes available to children;

then providing occupational information and exploring the attitudes of young children may broaden their outlook and experience in role play and enhance their chances for a wide vocational selection.

A theory of developmental and adjustment patterns in career choices was formulated by Holland (1966). Holland (1973) described six personality types (Realistic, Intellectual, Social, Conventional, Artistic, and Enterprising) and six corresponding work environments. Dissatisfaction in occupational choice stems from misconceptions of oneself or an inaccurate job description because of misconstrued occupational stereotypes.

Holland's theory has implications for career education at the elementary school level. Since personality was perceived as being developmental, programs directed toward self-awareness were beneficial. Exposure to career information was also important in order for children to formulate occupational categories (Bugg, 1969).

Hoppock (1976) proposed a developmental theory with needs arising at birth. The major theme of Hoppock's (1963) theory of career development was that occupational choices were based on individual needs. The framework of personal characteristics was formed from the early experiences of children. Occupational choices began when individuals recognize one or more occupations that best fulfil their needs. Occupational choice may change if needs were no longer satisfied. As career development progressed and occupational choice took on a selective quality, individuals were able to anticipate how a prospective occupation would meet their needs. This capacity to anticipate depended upon knowledge of oneself and knowledge of occupations. Hoppock's theory has implications for the elementary school in terms of curriculum materials aimed at fostering self-understanding and a broad awareness of the world of work in order to strengthen children's capacities to anticipate their needs for vocational fulfilment (MacCulloch, 1980). One's personal identity was attained through a career. During the school years, a preliminary ego-identity formed that was ultimately attained in a career. Career programs at the elementary school level assisted children in becoming aware of the importance that the role work played in their lives. Occupational information during the elementary school years increased children's opportunities to achieve more complete personality organization.

Tiedman and O'Hara defined career development as the continuous experiences that have relevance to work identity. Career development was self-development related to choice, entry, and progress in educational and vocational pursuits. Tiedman and O'Hara related Erickson's theory of psychosocial development to career development. The focus was on the ego or the reality principle. At each stage of psychosocial development a different emotional crisis emerged. Each societal demand required a different adaption by the ego in order to resolve a new crisis. The school was influential in career development. It was the experiences with learning tasks that lead to skill development and the feeling of accomplishment. The teacher could encourage the child to take an active part in the learning process (Osipow, 1983).

Super's (1953) developmental self-concept theory of vocational behavior demonstrated the influences of Buehler's developmental stages: Growth Stage, Exploratory Stage, Maintenance Stage, and Decline Stage. Super viewed the school (teachers and peers) as having a major influence during the Exploratory Stage of vocational development. Role play in formal and informal settings further influenced the development of vocational self-concept. As children grew older role play became more subtle and sophisticated. Super maintained that vicarious identity through exposure to occupations was also influential. Career education involved a graded exposure to concepts of self and work. The goal of career education was to provide children with information and attitudes about themselves and the educational-vocational world so that this could become an integrated part of the self. What was learned was a function of the interests, attitudes, knowledge, and behavior patterns that were valued by children's peers and adult models (Super, 1980).

Roe's (1957) personality theory of career choice was based on needs. Needs provided the unconscious motivation for career choice. Needs that were satisfied in the order in which they appear did not become unconscious motivators. If a need was left unsatisfied, it would become an unconscious motivator. Roe stated that the child's early years of parental interaction establishes needs through emotional concentration on the child (overprotection or overdemanding), avoidance of the child (emotional rejection or neglect), and acceptance of the child (casual acceptance or loving acceptance).

The dominant needs were translated into interests, and interests were in turn translated into vocational selection. The intensity and organization of needs, which determine vocational choice, were determined by the time the child reaches kindergarten. According to Bugg (1969) the implications of Roe's theory for elementary career education was to assist the child in discovering occupations that satisfy unconscious motivators.

Examination of career development theories indicates a need for career education programs at the elementary school level. These theorists suggest that career education programs provide experiences which foster self-understanding and personal development. Such a program will also provide occupational information and develop occupational attitudes and interests in order to expand children's awareness of the wide range of opportunities that are available to them. Through role play and vicarious modeling children can become acquainted with various work roles while simultaneously developing positive career attitudes. To summarize, these theories support the idea that satisfying career choices are based on self-awareness and an understanding of the world of work. Through implementation of career education programs at the elementary school level, the educational system can better meet the individual's needs in making career choices.

B. Behavioral Career Counseling

The behavioral approach to career counseling dealt with the process of learning in terms of career decision making. Career decision making involved information gathering, goal setting, planning, and problem solving (Crites, 1973). Two emphases within behavioral career counseling were behavioral-theoretical (Goodstein, 1972) and behavioral-applied (Krumboltz & Thoresen, 1976). In the behavioral-theoretical view of career counseling it was assumed that anxiety must be eliminated before career choices could be made. Firstly, the anxiety associated with decision making was eliminated through such techniques as counterconditioning. Then learning could occur in which career information was utilized to develop career decision making.

Goodstein (1972) viewed new learning as being assisted by social modeling, reinforcement, and discriminative learning. Goodstein stated that "virtually all of the learning that can be acquired through direct experience can also be acquired vicariously, that is, through observation of other people's behavior and its consequences to them" (p. 276).

> Some of the most creative and imaginative contributions that have been made by Behavioral career counsellors are in the area of occupational information. Krumboltz and his associates . . . have systematically devised a set of problem-solving career kits that simulate selected activities from twenty different occupations . . . kits are useful in simulating further career exploration and decision making (Crites, 1971, p. 159).

C. Development of Occupational Attitudes, Interests, and Information

Research has indicated that stereotyping of sex roles, including occupational components of these sex roles, is learned early in life. Vondracek and Kirchner (1974) found that when 3- to 6-year-olds were asked about their career interests, what they would like to be when they grow up, girls primarily chose occupations of nurse and teacher while boys chose from a wide range of occupations. In several studies involving preschoolers between 3 and 6 years of age, children typically sex-typed occupations for themselves (Beuf, 1974; Papalia & Tennent, 1975; Riley, 1981; Taylor, 1978; Wanga, 1983).

Papalia and Tennent (1975) investigated the occupational attitudes and interests of children between the ages of 3 and 5 years old. When asked what they would like to be when they grow up and what they actually thought they would be, these children responded in the sex role stereotyped directions. Although boys chose from a greater number of occupations than girls in both question conditions, these differences did not reach statistical significance. Although both boys and girls narrow their occupational choices, boys chose from a broader range of traditional occupations compared to girls.

In a study by Beuf (1974) children between the ages of 3 and 6 were asked what they wanted to be when they grow up and what they wanted to be if they were of the opposite sex. Findings showed that traditional sex role occupations were chosen by 70% of the boys and 73% of the girls. When children were asked to pretend they were of the opposite sex, 65% of the boys and 73% of the girls chose traditional sex role occupations. Since this study was conducted a decade ago, there was a possibility of cohort effects; however, similar results have been obtained in recent studies.

For example, in a similar study by Riley (1981) kindergarten children were given two assignments. The first was to draw a picture of what they wanted to be and the second was to draw a picture of what they wanted to be pretending they were of the opposite sex. Traditional sex-typed occupations were selected by 84% of the boys and 87% of the girls, with the boys perceiving a significantly broader range of occupational options compared to the girls. In the second condition, 74% of the boys and 84% of the girls chose traditional occupations. While the girls liked pretending they were boys, the boys disliked pretending they were girls. Both Beuf's and Riley's studies demonstrated that although sex role stereotyping had restrictive consequences for both sexes, the effects were more pronounced for girls. The attributions and functions typically assigned to the feminine role were less highly valued than those assigned to the masculine role.

In an investigation of preschoolers, Taylor (1978) found that boys identified with masculine roles while girls identified with feminine roles. By kindergarten, children have learned that occupations that were appropriate for females were extensions of the role of helper such as teaching and nursing. These findings were supported by Wanga's (1983) study of children 3 to 6 years of age. These children were shown pictures that were representative of people in various occupations. Five questions pertaining to job description, work importance, sex role stereotyping, occupational interests, and personal experience were asked for each occupation. As a measure of sex role stereotyping, each child was shown a picture that represented an occupation and asked, "Should (the occupation) be done by men, women, or both men and women?". No statistically significant differences were found for the preschoolers of different ages on this measure of sex role stereotyping; however, these preschoolers categorized occupations as being sex-typed. Significant differences were established between 3-year-olds and 4- to 6-year-olds on measures of knowledge, interests, and experience with occupations. Older children knew more about occupations, were able to discriminate between the occupations they liked and disliked, and had more experience with people in occupations presented to them. Wanga concluded by stating that these findings confirmed "that sex-role stereotyping occurs by the age of three years" (p. 47).

Looft (1971b) investigated the aspirations of grade 2 girls' vocational goals and realistic expectations regarding these occupational goals. Findings showed that vocational aspirations were sex role stereotyped and included occupations such as teacher and nurse while realistic expectations changed to include mother and homemaker. These interests showed a preference for traditional occupations and roles which indicated restrictive and conservative occupational opportunities for females.

In a similar study Looft (1971a) investigated the sex role occupational stereotyping of children in grades 1 and 2. These children were asked about their interests in terms of desired occupational goals and attitudes in terms of realistic occupational goals. For desired occupational interests boys nominated 18 different occupations while girls nominated only a total of 8 different occupations. In fact, 25 out of the 33 girls chose the occupations of nurse or teacher. In terms of realistic occupational goals, 23 boys changed from their initial responses while only 14 girls changed from their initial responses. This sex difference was statistically significant.

There was a discrepancy for females between idealistic occupational goals and realistic occupational goals. Although girls considered the possibility of nontraditional occupational roles, they chose traditional occupational roles. Girls may aspire to nontraditional occupations but when confronted with what they really think they will be doing as an occupation in adulthood they revert to the roles of homemaker, mother, teacher, nurse, and secretary. Boys' vocational aspirations and realistic expectations were traditional but broader than girls' choices.

Children's perceptions of occupational sex role stereotyping were investigated by Gettys and Cann (1983). Boys and girls ranging from 2½ to 8 years of age were asked to indicate from 10 occupations whether a man or a woman would most likely be in the occupation. Children at each age level made significant differentiations between the male and female occupations. These distinctions increased with age.

O'Keefe and Hyde (1983) studied the occupational sex role stereotyping of preschool, kindergarten, third grade, and sixth grade children. Children at all of these ages chose sex role stereotyped occupations for themselves. A statistically significant effect for age was found with occupational stereotyping decreasing among third- and sixth-grade children.

In a study by Schlossberg and Goodman (1972) the sex role occupational stereotyping of children in kindergarten and in the sixth grade was investigated. These children were asked to respond to 12 drawings representing the work setting for six traditional male occupations and six traditional female occupations. The interviewer assisted children in identifying the work setting and then asked "Could a man work here?", "Could a woman work here?". Children were also asked about their own vocational aspirations. The findings showed that there were no statistically significant differences between the occupational sex role perceptions held by kindergarten and grade 6 children. These children excluded females from traditionally male occupations more readily than they excluded males from traditionally female occupations. Children chose sex role stereotyped occupations for themselves.

In a study by Cann and Haight (1983) children ranging from 5 to 9 years of age were asked to select either a male or a female role in response to being asked, "Who would be better at this occupation?". The findings indicated that children at these age levels have sex-typed expectations concerning occupational competence. There was a tendency for occupational stereotyping to increase with age. Cann and Haight's (1983) findings were similar to Gettys and Cann's (1983) in that occupational stereotyping increased with age. This was in contrast to the findings of the majority of studies reviewed.

A list of 40 occupations was presented to boys and girls in grades 1, 3, and 5 in a study by Garrett, Ein, and Tremaine (1977). These children were asked to rate each of the occupations as male, female, or neutral. The results suggested that older children tended to have less rigid stereotypes than younger children.

In a study by Tremaine and Schau (1979) preschool, grade 2, and grade 4 children were shown nine occupations, three traditionally male, three traditionally female, and three neutral. These boys and girls were asked, "Who do you think would like this job?" and "If you were a boy (girl) what job of all possible jobs would you like?". Boys were more likely than girls on both the fixed-choice and free-choice tasks to choose occupations in accordance with tradition. Girls' choices were particularly narrow when given free-choices.

In a similar study Tremaine, Schau, and Busch (1982) investigated the responses of preschool, grade 2, and grade 4 children to questions measuring sex-typing of attribution, "Who would like this job?", service preference, "Who would you choose for the job?", and personal job choices, "Would you like to do the job?". These children were shown nine occupations. The results suggested that through the second and fourth grades attribution and service preferences involving occupational stereotyping increased.

Kriedberg, Butcher, and White (1978) interviewed second and sixth grade children asking actual and realistic occupational preferences. While boys at both grade levels responded to these questions with traditional occupational choices, half the girls in the sixth grade responded with nontraditional occupational choices. With the exception of the early childhood years, girls were more interested in nontraditional occupations than boys.

Iglitzen (1972) studied the occupational sex role stereotyping of grade 5 children. These children were given a list of jobs and asked whether "men", "women", or "both men and women" should perform these tasks. "A majority of both sexes thought that bosses, taxi drivers, majors, factory workers, and lawyers should be men and that nurses and house cleaners should be women" (p. 23). Occupational stereotyping occurred for both boys and girls.

In a study by Tibbetts (1975) boys and girls in grade 1 through 4 were tested for sex role attitude toward 30 occupations. The majority of the children's responses were stereotyped. These children agreed that women should be cooks, secretaries, and nurses while men should be lawyers, firefighters, and police officers. In both Iglitzen's and Tibbetts' studies boys and girls chose sex appropriate occupations for themselves.

A list of 35 occupations and activities were presented to girls and boys in grade 1 and 9 in a study by Jack and Fitzsimmons (1979). These children were asked to respond with "women", "men", or "either" to the question, "Who should do these jobs?". The results revealed that both the first and ninth grade boys had stereotyped views of occupations. First grade girls held stereotyped attitudes while ninth grade girls were more willing to accept men and women in nontraditional occupations.

Differences in elementary school children's acceptance of nontraditional occupations were explored by Scheresky (1976). Children from grades 1 through 6 were shown black and white photographs portraying

15 occupational settings. These children were asked if a man, woman, or both would do the job? The results indicated that these children viewed occupations according to traditional sex-typed divisions. The most stereotyped occupations were firefighter, truck driver, nurse, garbage collector, minister, and homemaker with these occupations being viewed as strictly stereotyped by 85% of the children. The occupations corresponded to children's ratings of the highest sex role stereotyped occupations in Barnhart's (1983) study.

Shepard and Hess (1975) developed an attitude test involving sex role occupational preference. They defined "traditional" in terms of the responses of 50 female and 50 male college students. These students were presented with a list of 44 adult occupations and activities, and asked to indicate according to traditional values whether a man, woman, or either should get the job? At least 60% of both the female and male students agreed on traditional sex role designations for a list of 23 items. There was a 90% agreement among judges of both sexes. Liberality was defined by the number of "either" responses. Kindergarten, eighth grade, college students, and a heterogeneous sample of adults were then shown a list of 43 occupations. The results indicated that occupational liberality increased from kindergarten through grade 8 to college and decreased for adults. At each grade level, except kindergarten, there was a statistically significant sex difference with females being more liberal in attitude toward occupations compared to males. Females were more interested than males in nontraditional occupations. When comparing attitudes across age groups, occupational liberality increased with age. Females were found to be more flexible than males with regards to whether males or females should hold occupations. These findings were predicted by researchers since traditional sex role division results in the assignment of the least prestigious and valued tasks to females. Females, therefore, had little to lose in being more flexible in their occupational choices.

O'Bryant, Durrett, and Pennebaker (1978) studied the occupational preferences in males and females. This study involved the investigation of the preference of four age groups from fifth grade through college with regards to four traditional male and female occupations. The results showed that males and females became less stereotyped in occupational preferences with age.

Umstot (1980) investigated traditional stereotyping of occupations in third-, fifth-, and seventh-grade girls. These girls were asked their occupational aspirations and their realistic occupational aspirations. The Occupational Attitude Survey consisting of 50 occupations and activities was administered with the directions, "Which of the following do you personally feel should be done by a man (M), a woman (W) or either a man or a woman (E)?". A one-way analysis of variance comparing the mean scores of children at the three grade levels yielded a statistically significant grade effect. Attitudes became increasingly less stereotyped across grade levels. Occupational choices of seventh-grade girls were broader than the occupational choices of the third- and fifth-grade girls.

Archer (1984) studied the attitudes of kindergarten, 5th-grade, and 11th-grade males and females toward sex role division in occupations. These participants were from the working class. The 44-item questionnaire on occupations and activities designed by Shepard and Hess (1975) was administered. Responses to occupational aspiration were also required. The

11th-grade students were significantly less stereotyped than the 5th-grade students in terms of occupational attitudes and the 5th-grade students were significantly less stereotyped than the kindergarten students. There was a statistically significant sex effect with females being less stereotyped than males. Males and females tended to aspire to occupations that were considered appropriate for their gender.

In summary, several studies have involved the comparison of occupational stereotyping across age groups (Archer, 1984; Garrett, Ein, & Tremaine, 1977; O'Bryant, Durrett, & Pennebaker, 1978; O'Keefe & Hyde, 1983; Shepard & Hess, 1975; Umstot, 1980). These studies demonstrated that sex role stereotyping of occupations tended to decrease with age.

Children's choices of, and value judgement towards, sex-typed toys and occupations were investigated by Teglasi (1981). Girls and boys from kindergarten through grade 6 were asked to select toys and occupations by choosing for a boy, choosing for a girl, and choosing the best one. Three sets of 24 picture depicting adults working in various occupations were drawn. One set depicted a male figure, a second set depicted a female figure, and a third set depicted a neutral figure. Another set of cards was prepared to depict 18 toys divided into six groups of three male sex-typed toys, three female sex-typed toys, and three neutral toys. The results indicated that children from kindergarten through grade 6 chose sex appropriate toys and occupations for boys and girls. Children were already narrowing their choices in kindergarten and the degree of sex-typing increased with grade level. Boys' "best" choices were significantly more stereotyped in the masculine direction than were girls' choices in the feminine direction. The "best" toys and occupations corresponded more to the male sex-typed toys than the female sex-typed toys.

Borgen and Young (1982) studied the occupational perceptions of students in the 5th through the 12th grade. The developmental sequence in which students describe occupations was investigated. These students' responses to five occupations were rated in nine categories: behavior, interests, outcomes, social relevance, career progress, self-evaluation, occupational evaluation, choice, and misinformation. The instructions were to write for 5 minutes on the topic, "If you were in (occupation) you would". The results showed that occupational description prevailed in grades 5 through 7; whereas, students in higher grades focused on career interests, career progress, and career outcomes. Students in grades 5 through 7 had a significantly higher number of occupational descriptions involving behavior and activities compared to grade 8 through 12 students. Borgen and Young concluded that career information can be maximized from grade 5 through 9. Children at the upper elementary school level viewed career information as contributing to their knowledge of occupations.

Several conclusions can be drawn from the review of literature investigating: the career attitudes, the career interests, and the career information of males and females. First, occupational attitudes are formulated by the age of 3. Secondly, occupational sex role stereotyping begins at an early age and decreases through the grade levels. Thirdly, males and females choose sex appropriate occupations for themselves. Fourthly, although both males and females narrow their occupational choices to sex appropriate choices, males choose from a broader range of traditional occupations compared to females. Fifthly, with the exception of the early grades females are more interested in nontraditional careers than males. Lastly, children at the upper elementary school level view career information as contributing to their knowledge of careers.

D. Occupational Trends

Two striking occupational trends of the past decade are the dramatic rise of the number of females in the labor force (Norwood & Waldron, 1979) and the number of females entering careers traditionally reserved for males. Widely held prejudice that some roles are feminine while others are masculine persists in artifically restricting the job market far beyond the limits set by job requirements. Occupational sex role stereotyping is evident among both sexes.

In the past most highly skilled trades were considered appropriate for males while social pressures encouraged females to become homemakers or work in female dominated occupations such as teaching, nursing, or clerical work which were considered compatible with the feminine sex role. Higher costs of living, increasing divorce rates, and the women's movement provide the incentive for females to enter nontraditional occupations for financial reasons (Glasgow, 1982).

In 1979, 48.9% of Canadian females of working age were employed. The number of working females has risen from 29.7% in 1961 and 16.1% in 1901 (Statistics Canada, 1980). In 1979 females represented 39.3% of the total Canadian labor force. Occupational stereotyping was still prevalent at this time (Women's Bureau, Labor Canada, 1978-1979).

> Although 48.9 percent of the women are in the paid labor force, they are still entering traditionally female dominated occupations. In 1979 almost 35 percent of women working for pay in Canada were employed in clerical occupations, 17.9 percent in service occupations and 10.7 percent in sales. Only 5 percent had managerial and administration jobs. Even fewer had technical and skilled labor jobs. (p. 1)

E. Early Development

> No experience in the development of the child . . . is quite so important or far reaching as his earliest experiences in his family. It is the family which introduces a child to life, which provides him with his most permanent of self definitions (Combs & Snygg, 1959, p. 134).

Work values developed through interaction and identification with various socializing agents as well as through the individual's experiences in the family, school, and work setting. Among socializing agents, the primary and potentially most influential, are parents. By the time children reach school age, socializing influences broaden to include peers, teachers, and the mass media.

The acquisition of the concept of sex role begin at a very early age. By the age of 3, children can correctly apply gender labels and have learned that there are attitudes, interests, and behaviors appropriate for each gender (Kohlberg, 1966).

Several researchers investigate the impact of maternal work status on children's sex role stereotyping. In Marantz and Mansfield's (1977) study subjects consisted of 5- to 11-year-old girls with working or nonworking mothers. An activity stereotype scale consisting of 50 activities was administered. Each girl was asked, "Which things do you think ladies can do, and which things do you think men can do, and which things do they both do?". Another dependent measure consisted of an inventory of 18 personality characteristics adapted from the Sex Role Stereotype Questionnaire. Each girl was also asked about her vocational aspirations. The findings "indicated that daughters of working mothers had fewer sex role stereotypes than daughters of nonworking mothers" (p. 668). Stereotyping of sex roles by girls with working and nonworking mothers decreased with age.

Miller (1975) investigated the effects of maternal employment on the sex role perceptions, interests, and self-esteem of girls in kindergarten. A group of 17 kindergarten girls whose mothers worked were matched with girls whose mothers did not work. Each girl's sex role concept was measured by asking who might do the activities listed. Kindergarten aged girls with working mothers saw the roles of their parents as being significantly less traditional than did girls with nonworking mothers. Girls with working mothers also perceived sex roles in general as being significantly less traditionally stereotyped than did girls with nonworking mothers. The findings indicated that the roles of the parents in the families in which the mother works may be less traditional in terms of household divisions of labor than in families in which the mother was not working.

Vogel, Broverman, Broverman, Clarkson, and Rosenkrantz (1970) investigated the effects of maternal employment on the perception of sex roles among male and female college students. One-hundred and twenty students rated men, women, and themselves on an inventory of bipolar phrases describing sex role characteristics. Sex role perceptions were measured by asking males and females to describe the typical male and the typical female on the bipolar continuum. The results of t-test comparisons showed that college students with working mothers demonstrated significantly less sex role stereotyping than college students with nonworking mothers. Both male and female students with working mothers perceived significantly less difference between sex roles than did males and females with nonworking mothers. Females were more influenced by working mothers than males in that daughters of working mothers viewed females as competent and effective while sons of working mothers viewed females as warm and expressive.

Maternal influences upon female college students' attitudes towards women and work were investigated by Baruch (1972). Eighty-six female college students were presented with a number of journal articles and asked to judge the quality of the articles and the authors. Half of the articles were given female authors' names and half were given male authors' names. The results showed that the daughters of working mothers were significantly different than the daughters of nonworking mothers in that daughters of working mothers did not attach a lower value to articles attributed to female authors. The daughters of working mothers were significantly less likely than the daughters of nonworking mothers to assume lower competence on the part of female authors.

In summary, from the literature reviewed, it would appear that children of working mothers, particularly girls, are less stereotyped in their views of sex roles compared to children whose mothers do not work. This hypothesis warrants further investigation.

The media with the influence of books and television played a part in encouraging traditional sex role standards. Weitzman, Eifler, Hokada, and Ross (1972) investigated the sex role stereotyping in picture books for preschool children. The books examined were winners of the Caldecott Medal, winners of the Newbery Award, the Little Golden Books, and the etiquette books. An examination of these picture books revealed that females were underrepresented in the title, central roles, and illustrations.

Where males and females did appear their characterizations reinforced traditional sex role stereotypes: boys were active while girls were passive; boys were leaders and rescuers while girls were followers and servers of others; and males engaged in a wide variety of occupations while females were presented as homemakers. Children's picture books, including the award winners of the Caldecott Medal and the Newbery Award from 1931 to 1971, portrayed traditional sex role stereotypes.

Collins, Ingoldsby, and Dellmann (1984) conducted a follow-up study on Weitzman's et al. (1972) findings by reviewing a sample of 16 Caldecott Medal award winning picture books and runners-up from 1979 to 1980. Findings suggested that these picture books did reveal a move towards greater sex role liberality in the children's literature.

St. Peter (1979) assessed 206 picture books for children 3 to 6 years of age on the basis of transmitting sex role information. Three groups of books included: books published from 1903 to 1967, books published from 1966 to 1975, and a specialized nonsexist list of books about girls published from 1882 to 1973. Analyses indicated that in the regular picture books females were underrepresented in titles, central roles, and illustrations while males were overrepresented in instrumental pursuits and were underrepresented in emotional activities. The specialized books featured mainly female characters maximizing instrumental pursuits and underrepresenting expressive activities.

Scott and Feldman-Summers (1979) studied grade 3 and 4 children's reactions to textbook stories in which females were portrayed in nontraditional sex roles. Results indicated that exposure to female main characters in nontraditional roles increased the children's perceptions of the number of females who could engage in these nontraditional activities. Connor and Serbin (1978) studied grade 4, 6, and 8 students' responses to stories with male or female main characters. The results showed that boys preferred stories about males and this preference increased with age level. A preference for stories about girls was statistically significant for older girls. Lutes-Dunckley (1978) investigated sex role preferences as a function of storyteller and story content. Preschoolers were read stories depicting traditional or nontraditional sex role characters. Results showed that children hearing nontraditional stories made more nontraditional choices when asked to state activity preference when compared to children in the control condition. A storyteller of the opposite sex had the greatest effect. These studies demonstrated that children's literature can have an effect on the sex role behaviors.

A comparison of the sex role characters presented in children's books written in the 1930's and the 1970's was carried out by Hillman (1974). She found that the average percentage of male characters was 64.7% in the earlier period and 61.2% in the later period. In the earlier period the diversity of occupations performed by males was 84.8% greater than the range performed by females. In the later period, occupational performance by males was 79.4% greater than the range performed by females. Over both time periods, males were found to be significantly more physically aggressive than females.

The purpose of Frasher and Walker's (1972) study was to compare the roles of readiness, first-grade, and second-grade reading textbooks for sex role stereotypes. The reading series analyzed were published by McMillan & Scot, Foreman, and Allyn & Bacon. The findings indicated that traditional sex role stereotypes were prevalent in these reading series. Fathers assumed the roles of family leadership and breadwinner while mothers assumed the role of homemaker. Males were portrayed outdoors while females were portrayed indoors. In all the series analyzed males predominated as main characters.

Flerx, Fidler, and Rogers (1976) investigated the effects of exposing 3-, 4-, and 5-year-old children to books with egalitarian sex role models and traditional sex role models. The pre- and posttest comparison of scores revealed that 4- and 5-year-olds exposed to egalitarian roles in books expressed significantly fewer sex role stereotypes compared to children exposed to the traditional roles in books. In a second experiment, kindergarten children were randomly assigned to the traditional book condition, the egalitarian book condition, and the control condition. Egalitarian symbolic modeling in films produced significantly greater egalitarian attitudes when compared to egalitarian models in picture books.

Ashton (1983) investigated the effects of sex role stereotyped books upon children's play behavior. Children 2 to 5 years of age were pretested by allowing free play with female stereotyped toys, male stereotyped toys, or neutral toys. Following this play session, a picture book that presented a same sex character engaged in play with a female sex role stereotyped toy, a male sex role stereotyped toy, or a neutral toy was read to each child. Posttesting involved free play for each child and the recording of this play. The significant results showed that preschool children chose a sex role stereotyped toy following exposure to a sex role stereotyped picture book, while children exposed to nonstereotyped picture books chose nonstereotyped toys.

Knell and Winer (1979) studied the effects of occupational sex role stereotyped stories on the sex role behavior of preschool children between the ages of 3 and 6. One-hundred and thirty-six preschoolers were randomly assigned to a traditional sex role story condition, a nontraditional sex role story condition, a mixed sex role story condition, and a control condition. Each group of children was read four stories per day over a period of 3 consecutive days. All of the children were posttested on measures of occupational aspiration, story preference, occupational projection, awareness of adult roles, and toy preference. The significant results showed that boys appeared more sex role stereotyped than girls. However, stories that portrayed traditional occupations served to produce sex role stereotyped responses in girls.

In summary, research studies indicate that books as a medium can reinforce sex role stereotyping. The majority of characters in books are males while females remain underrepresented.

Television is one of the most powerful environmental influences on children (LeBaron, 1975). McGhee and Frueh (1980) studied the relationship between the amount of time children spend watching television and their sex role stereotyping. Children in grades 1, 5, and 7 were categorized as heavy television viewers (25 or more hours per week) or light television viewers (10 or less hours per week). Heavy television viewers were found to sex role stereotype significantly more frequent than light television viewers. Light television viewers' sex role stereotyped responses to male items decreased with age, while heavy viewers' sex role stereotyped responses to male items were maintained with increasing age.

Downs (1981) analyzed the female and male roles of characters who were central to 14 prime-time television programs to determine the extent of sex role stereotypic behavior. Results indicated that males were portrayed more often than females in occupation-related situations and working outside while females were portrayed more often than males at home. While males were likely to solve their own problems, females were more likely to deal with the problems of others or require assistance in solving problems.

Cobb, Steven-Long, and Goldstein (1982) demonstrated the influence of televised models on toy preference in 4 to 6 year old children. Children viewed one of three videotapes in which fantasy characters used arguments to assign masculinity, femininity, or sex role neutrality to sex-neutral toys. The videotapes of sex appropriate toy choice influenced both boys and girls to play with toys that were identified as sex appropriate. When toys were identified as inappropriate for their sex, children spent more time playing with a less desirable toy.

Sternglanz and Serbin (1974) analyzed the performance of role models presented on 10 popular children's television programs. There were significantly more male roles than female roles. In fact, there were more than twice as many male roles. The significant results showed that males were portrayed more often than females as being aggressive and constructive. Males were rewarded more often than females while females received no consequences more often than males.

Mamay and Simpson (1981) analyzed 515 television commercials depicting three female roles. Of the 515 commercials sampled, 307 (59.6%) involved maternal, homemaker, or aesthetic role activities. Of these 307 commercials, 52.7% portrayed the maternal role, 21.2% the homemaker role, and 26.7% the aesthetic or beauty product role. More than half of the commercials featuring females employed an unseen announcer. Nearly 86% of these voices were male. The overwhelming use of male announcers suggests that males were accorded greater legitimacy than females as authority figures.

In a study by O'Bryant and Corder-Bolz (1978) the effects of television on children's stereotyping of female work roles were investigated. Sixty-seven children 5 through 10 years of age were exposed to specifically produced television commercials. Over 1-month, one treatment group viewed cartoons with commercials involving females in traditional roles while the second treatment group viewed cartoons with commercials involving females in nontraditional roles. Pre- and posttesting included measures of career information, measures of career attitudes, and measures of preference for traditional male or female occupations. The results indicated an increase in career information from television viewing. The significant results showed that children who viewed females portrayed in traditional roles increased their career attitudes that these roles were only appropriate for females, while children who viewed females in nontraditional roles increased their career attitudes that females can work in nontraditional occupations. Girls changed their preference from traditional to nontraditional occupations or vice versa to correspond with their viewing of females in traditional or nontraditional occupations.

In summary, it appears from research studies that role models have an influence on the sex role attitudes and occupational aspirations of children. Role modeling influences include live and symbolic models. Live models such as parents and symbolic models such as television characters and storybook characters typically represent stereotvpe sex roles. Sex role stereotyping is portrayed in the home setting as well as in the work setting. Occupational attitudes and aspirations narrow at an early age as a reflection of sex stereotyped role models.

F. Social Learning Theory

"Social learning theory emphasizes the prominent roles played by vicarious, symbolic, and self-regulatory processes in psychological functioning" (Bandura, 1977, p. vii). Bandura's (1977) view was that thoughts, attitudes, and behaviors were influenced by observation as well as through direct experience. Socially mediated experience was the essence of social learning theory. This theory explained behavior in terms of a reciprocal interaction between cognitive, behavioral, and environmental determinates.

In social learning theory four component processes are presumed to govern learning: attention, retention, motor reproduction, and motivation. Bandura (1977) has synthesized elements of information processing theory in terms of cognitive components (attention and retention) with elements of reinforcement in terms of behavioral reproduction (motoric responding and motivation). For learning to occur, the individual must attend to, select, and extract the relevant features of the stimuli.

Attentional processes are characteristics of the individual and the social interactional milieu. Five features of the stimuli (distinctiveness, affective valence, complexity, prevalence, and functional value) affect the proficiency in which stimuli are conveyed to the individual in terms of salience, meaningfulness, and utility.

Retentional processes involving learning has value when it can be recalled or reproduced. Bandura (1977) states that a combination of a covert response followed by an overt response is the most effective learning situation.

Motor reproduction processes provides self-observations and accuracy of feedback during enactment serves to reduce the discrepancies between the symbolic representation and the physical performance. The physical capabilities of component responses in an individual's behavioral repertoire determines how well a learned response can be reproduced.

Motivational processes involves reinforcement in social learning theory; they acted as motivators rather than as automatic strengtheners of responses. Acquisition of behaviors takes place regardless of reinforcement, since anticipated consequences may prevail. Motivational processes takes on several forms: external reinforcers, vicarious reinforcers, and self-reinforcers. Social learning theory consists of: anticipated reinforcement, attention, presentation of stimulus, retention, and response.

According to Bandura (1977) "the basic modeling process is the same regardless of whether behavior is conveyed through words, pictures, or live actions. Different forms of modelling, however, are not equally effective" (p. 40). Incidental learning is facilitated by models, adults, and children who serve as examples of various types of behavior. The importance of modeling is exemplified by the various instances that can be cited in which children acquire the mannerisms, verbalizations, and attitudes of their culture without specific instructions, but through casual observations (Borgen, 1976).

Besides the four fundamental processes of attention, retention, motoric reproduction, and motivation, other conditions influence the strength of modeling. These include the characteristics of the model, of the observer, of the modeling situation, and of the modeling strategy (Bandura, 1977). These characteristics establish the extent to which the observer identifies with the model.

Characteristics of the model influence the extent to which behavior is imitated by the observer. From the research literature, there is an indication that models who possess high status in terms of prestige, power, and competence are imitated to a greater extent when compared to models with subordinate standing (Bandura & Kuper, 1963).

Observers' characteristics also vary in their susceptibility to modeling influences. Observers who have been frequently rewarded for imitative behavior, those with relatively low self-esteem, and those who felt incompetent were apt to imitate successful models (cited in Rosenthal & Bandura, 1978). Similarities between model and observer in age, sex, socio-economic status, and racial status are shown to influence imitation (cited in Rosenthal & Bandura, 1978).

G. Skill Training Through Covert and Overt Rehearsal

The effects of verbal labeling and role play on children's behavior were investigated by Imamoğlus (1975). Verbal labeling and role play were utilized in two different training programs. After each of the treatments boys and girls showed increased prosocial verbalization and helping behavior on a fantasy measure. The verbal labeling program had the effect of increasing prosocial verbalization in girls while the verbal labeling program by itself did not have an effect on boys. The combination of a verbal labeling program and a role play program demonstrated increased prosocial verbalization. The role play program which involved rehearsing selected dialogue and activity with puppets increased helping behavior, particularly in boys. For boys, active participation in role play may create more involvement than passive verbal labeling with storybooks.

In a study Butler, Miezitisis, Friedman, and Cole (1980) investigated the effects of a role play program and a cognitive restructuring program on grade 5 and 6 children with symptoms of depression. Children with symptoms of depression were selected through a self-report depression battery and teachers' ratings. These children were randomly assigned to a role play program, cognitive restructuring program, or a control for 10 weeks. Improvements were observed in children in the role play and the cognitive restructuring program; however, the gains were more dramatic in the role play program. The role play program demonstrated the greatest posttest score improvement. This program had greater appeal to the children compared with the cognitive restructuring program. Butler's et al. (1980) and Klingman's (1982) studies were similar in that overt role play was more effective than covert rehearsal.

Klingman (1982) investigated the effects of a role play program and a lecture-discussion program designed to assist elementary school teachers in handling children who were under stress. These teachers were randomly assigned to treatment conditions and a control condition. The findings demonstrated a significant difference between groups. There were positive changes in attitude and behavior by the subjects in the role play group compared to subjects in the lecture-discussion group and by both treatment groups relative to the control group.

Several studies have involved the utilization of overt, covert, and a combination of overt and covert rehearsal to change nonassertive behavior. The purpose of Rudner's (1976) study was to investigate the effects of modeling and role play on the assertive behavior of grade 6 children. Seventy-two children were randomly assigned to four groups: modeling, role play, modeling plus role play, or control. Children in the modeling condition viewed a 13-minute videotape presentation which depicted a variety of assertive responses. The children in the role play condition practiced one situation requiring an assertive response without viewing the videotape. The children in the modeling plus role play condition practiced one of the situations requiring assertiveness after viewing the corresponding scene on the videotape. The dependent measure involved each child in an unobtrusive 3-minute test situation requiring assertive behavior in order to complete the task. The results showed that the role play plus the modeling program, and the role play program effected behavioral change toward overall assertiveness in the specific test situation.

While Rudner (1976) found that overt rehearsal or overt plus covert rehearsal was more effective in increasing assertive behavior, McFall and Lillesand (1971) found that covert rehearsal was more effective in increasing assertive behavior. McFall and Lillesand (1971) conducted a study to investigate the effects of overt or covert rehearsal, symbolic verbal modeling, and coaching on changing nonassertive behavior in adults. These adults received two training sessions in refusing unreasonable requests. Compared to the control group, the adults in the behavioral overt rehearsal group with coaching received significantly higher scores on measures of assertive behaviors. Covert rehearsal produced the greatest improvement.

McFall and Twentyman (1973) conducted four experiments to assess the effects of rehearsal, modeling, and coaching on the behavior of nonassertive adults. The adults in the rehearsal and coaching conditions made significant gains in assertiveness as measured by self-report and observation. Symbolic modeling demonstrated a nonsignificant effect upon rehearsal or rehearsal plus coaching. These results were substantiated with tactful and descriptive models, and for audiovisual and auditory media. There were no significant differences in terms of covert rehearsal, overt rehearsal, or a combination of covert and overt rehearsal.

The effects of overt rehearsal plus homework practice or covert rehearsal plus homework practice on nonassertive behavior were investigated by Kazdin and Mascitelli (1982). Nonassertive adults were randomly assigned to a treatment or a control condition. Adults who received homework practice plus overt rehearsal of assertive behavior made significantly greater improvement during the posttesting and the 1-month follow-up compared to the control.

In summary, covert rehearsal was found to be effective for increasing assertive behavior in McFall's et al. (1971) study. Overt rehearsal was found to be effective for increasing assertive behavior in Rudner's (1976) study and Kazdin's et al. (1982) study. A combination of covert and overt rehearsal was found to be effective in Rudner's study and McFall's et al. (1973) study.

Pelecgrini and Galda (1982) examined the effects of role play, adult-led discussions, and drawings on children's comprehension of stories. One-hundred and eight children in kindergarten through grade 2 were randomly assigned to these three conditions. On three separate occasions they listened to three stories. The dependent measure consisted of a criterionreferenced and a retell test. Role play was significantly more effective in increasing comprehension. Enacting specific roles appeared to have an effect on retelling stories.

Three methods of training remedial tutors were studied by Willis and Gueldenpfenning (1981). College student volunteers were randomly assigned to the following groups: lecture presentation, modeling, and role play with feedback on performance. All subjects attended eight half-hour training sessions. The results indicated that although all groups made significant improvements in tutoring, the role play group made the greatest improvement. Role play was significantly more effective than the modeling, the lecture presentation, or the control. The modeling was significantly more effective than the lecture presentation method.

Froehle, Robinson, and Kurpius (1983) investigated the effects of modeling with and without role play in teaching the counseling skill of reflection. Graduate students beginning a counselor training program were randomly assigned to one of the following conditions: written modeling, videotape modeling, written modeling plus role play, videotape modeling plus role play, or a control. These were short-term training programs with the role play being 10 minutes in length. The results showed that there were no statistically significant differences between the two modeling conditions without role play. The role play significantly enhanced the effectiveness of the written modeling but not the videotape modeling.

In a similar study by O'Toole (1979) the effects of combining role play with written modeling and with videotape modeling for training student counselors in interview skills were investigated. Regardless of whether written or videotape modeling was utilized, students who role played following the modeling treatment showed superior interviewing skills compared to students who did not role play. In summary, Froehle's et al. and O'Toole's studies demonstrated that role play increased the effectiveness of teaching counseling skills to graduate students in counseling practicums.

In a short-term training program for mental health paraprofessionals, Tevvan and Gabel (1978) studied the relative effects of a modeling-role play program and a lecture-discussion program. Forty-five mental health paraprofessionals were administered the Helper Response Preference Inventory and rating for empathy and global counseling skills based on the Group Assessment of Interpersonal Traits. The results indicated that both the modeling-role play program and the lecture-discussion program were more effective than a control condition. The modeling-role play program was found to be significantly more effective than the lecture-discussion program in improving appropriate counselor responses.

In conclusion, selected research studies demonstrate that overt rehearsal and/or covert rehearsal are both effective methods of skill development. Literature involving overt rehearsal and/or covert rehearsal will be reviewed in terms of studies involving attitude change.

H. Attitude Change Through Covert and Overt Rehearsal

The effects of role play on attitude change were investigated by Taylor and Smith (1972). The subjects consisted of 36 female undergraduate students from an introductory psychology course selected on the basis of their pretest scores. Each subject was requested to role play a counter attitude in the presence of two confederate females. Each subject was led to believe that she was playing the role of a deviate in a group dynamics study. Half of the subjects were placed in a pleasant condition while the other half of the subjects were placed in an unpleasant condition. Subjects expecting a follow-up session 1 week later changed their attitudes significantly in the direction they were role playing. Subjects who were not expecting a second meeting showed nonsignificant attitude change.

The effects of role play on attitude change toward cigarette smoking were investigated by Mann and Janis (1968). Thirty-five adult subjects role played lung cancer victims over a 1-hour time period. An 18-month follow-up study was conducted to investigate the long term effects produced by these subjects role playing lung cancer victims. The results showed significantly less cigarette consumption for these subjects compared to an experimental group who heard the recording of an emotional role play performance of a lung cancer victim. During this time there were decreases in the cigarette consumption of both experimental groups but only a temporary decrease for the untreated control group.

The Stanford Prison study (cited in Haney, Banks, & Zimbardo, 1973) involved 24 subjects who were selected from a pool of 75 applicants to a newspaper advertisement asking for paid volunteers to participate in a "psychological study of prison life". These subjects were chosen from male college students who were judged to be physically and mentally stable. The day before the experiment began the subjects attended an orientation meeting in which they were informed that the goals of the study were to simulate a prison environment. Subjects agreed to role play prisoners and guards for a maximum time period of 2 weeks. When confined to a mock prison in which guards were their peers, in the course of 2 days, reactions among subjects in the roles of prisoners included loss of personal identity, passivity, depression, and helplessness. Subjects in the role of guards displayed exploitation and dehumanization in performing their duties. Attitude change for male college students in this simulated prison study demonstrated the effects of role play.

The efficacy of a symbolic modeling program, a role play program, and a videotape presentation program on attitude change in the reduction of avoidance behavior was investigated by Lira, Nay, McCullough, and Elkin (1975). Adults with snake phobia were in one of the three treatment conditions or the control condition. Subjects who were in the role play group significantly reduced their avoidance behavior of snakes compared to the subjects in the other three groups. Self-report fear ratings were significantly lower for the subjects in the role play group compared to other groups. Posttest attitude measures showed that subjects in the role play group held significantly more positive attitudes toward harmless snakes than subjects in the other groups. A 2-month follow-up study suggested from both subjective and behavioral reports that the treatment gains from the role play were maintained. These findings provided support that role play can produce effective attitude change.

Bandura, Blanchard, and Ritter (1969) investigated the relative efficacy of systematic desensitization, symbolic modeling through films, and live modeling plus behavior rehearsal in bringing about attitude change toward harmless snakes. Adolescents and adults who suffered from snake phobia were administered a fear inventory and the semantic differential as pre- and posttest measures of behaviors and attitudes. The self-administered symbolic treatment observed a graduated film involving various individuals of all ages in progressively more threatening interactions with snakes. The subjects in the systematic desensitization group were taught progressive relaxation while viewing the film. Results indicated that the live modeling with behavioral rehearsal was significantly more effective in eliminating snake phobia in 92% of the cases. Symbolic modeling and systematic desensitization reduced phobic behavior while subjects in the control group remained unchanged.

The purpose of Dailey and Haplin's (1981) study was to determine if college students' attitudes toward the physically disabled could be positively changed by observing videotapes of physically disabled children. A videotape presentation group, a lecture-instruction group, and a control group met separately for 2½ hours twice weekly over 19 sessions. The students in the videotape presentation group demonstrated significantly more positive attitudes towards the physically disabled compared to the lecture-instruction group and the control group as measured by the Attitude Toward Disabled Persons Scale.

In conclusion, selected research studies demonstrate effective attitude change through covert rehearsal and/or overt rehearsal. These methods have also been utilized in altering sex role stereotyped attitudes towards occupations through career education programs in the school.

I. Career Education Programs in the School

A limited number of studies involve the development, implementation, and evaluation of career education programs at the elementary school level. There has also been a limited number of career education programs at the elementary school level which focus on career attitude, career information, and career interest.

Vincenzi (1977) developed a career education program at the grade 6 level focusing on increasing occupational liberality. The treatment group and control group were administered pre- and posttests. Slides illustrating 24 occupational settings were followed by the questions, "Could a man work here?" and "Could a woman work here?". The subjects met in their groups twice a week for 30-minutes per session. These programs were in effect for 10 weeks. The treatment consisted of: magazine articles presenting topics on nontraditional occupations, definitions and examples of sex role stereotyping, and seven women guest speakers in nontraditional occupations. The results of an analysis of covariance showed that there was a statistically significant difference between the treatment group and the control group. The number of occupations viewed as sex-typed by children in the treatment group was significantly reduced.

In a study by Harris (1974) the effects of a series of group counseling sessions on the occupational choices of sixth-grade girls were investigated. Five girls were randomly assigned to the treatment group while 13 girls were randomly assigned to the control group. The pre- and posttest consisted of the question, "Name the jobs you think you might like to do in the future?". The girls in the treatment group participated in six group counseling sessions which included: career choices, life charts, interest charts, interests and occupations, and career games. Following the counseling sessions, the girls in the treatment group increased their number of occupational choices to a mean of 3.07 choices. Differences in gain in number of choices between the counseling and the control group, when data were analyzed with a _t_ test, were statistically significant. Although decrease in traditional occupational choices were shown by girls in the counseling group, this decrease was not found to be statistically significant when compared to the control group. Harris concluded that "the lack of significant difference between groups may be accounted for by the fact that none of the sessions had the specific objective of decreasing sex-type thinking" (p. 132).

The implementation of a guest speaker presentation program at the elementary school level was supported by Bank's (1969) study. Parents and other community members participated in a Career Day at an elementary school with students in kindergarten through grade 6. Pictorial representations were made by children in kindergarten through third grade. The accuracy of children's perceptions of guest speakers were evaluated through pictorial (drawings and magazine clippings) representations. Written evaluation for children in grades 4 through 6 involved these children writing about the job descriptions of the guest speakers and commenting as to whether or not they were interested in the particular occupation. The results of these evaluations indicated that children's career information was increased by this guest speaker program.

Weeks, Thornburg, and Little (1977) investigated the career aspirations of 5-year-olds who were exposed to role models in nontraditional occupations. Over a period of 2 weeks, 17 kindergarten children in the treatment group were exposed to seven role models. The theme of nontraditional occupations was also presented through stories, songs, and displays. In the pre- and posttest each child was presented with 13 pairs of occupational roles, one of each pair was traditionally held by females and one was traditionally held by males. Each child was asked, "When you get older, would you rather be a (female occupation) or (male occupation)?". A comparison of the pre- and posttest mean scores of the treatment group and the control group, using a t test for correlated means, indicated that neither group made statistically significant changes in their career aspirations.

In a similar study, Weeks and Potter (1983) extended the length of treatment from 2 weeks to 10 weeks. The treatment program consisted of exposing 24 kindergarten children to materials based on the theme of nontraditional occupations in addition to classroom visitations by males and females in nontraditional occupations. The dependent measure consisted of the 13 pairs of traditional male and traditional female occupations. The pre- and posttest were compared with a t test for repeated measures. The results indicated that the children in the treatment group were only slightly less traditional in their occupational attitudes after the 10-week treatment. There were no significant t values. Week and Potter concluded that "the role models did not sufficiently parallel the occupations included in the instrument and therefore, the 5-year-olds may not have been able to make generalizations from the occupations represented by the models to the occupations on the instrument" (p. 69).

Wolfe (1977) developed a vocational counseling program aimed at increasing the career aspirations and interests of females in grade 12. The treatment group, consisting of 12 females, met for seven 2-hour sessions over a 6-week period. These treatment sessions included: (1) the Life Planning Game, (2) a panel discussion on occupational choices among seven women, (3) speakers presenting job search techniques, (4) Holland's Self-Directed Search, and (5) a film presenting issues pertaining to women and employment. Pre- and posttesting consisted of the administration of the Sex-Role Questionnaire, the Career Maturity Inventory Attitude Scale, and the Personal Orientation Inventory. The results showed a lack of statistically significant difference between the treatment group and the control group. Since the females involved in the counseling program found this program to be personally rewarding there was merit; however, Wolfe concluded that more extensive exposure to nontraditional occupations would be advantageous in such a program.

Leith's (1977) study involved females in the seventh and eighth grade viewing films of males in traditional occupations and the effects of social sanctions on nontraditional career interests. Females in one treatment group were exposed to three films of males in traditional occupations. In addition, these girls received social sanctions while in the second treatment group girls were exposed to three films of males in traditional occupations without receiving social sanctions. These two treatment groups and the control group were pre- and posttested on an interest scale based on a 7-point Likert-type scale for ratings of six traditional male and six traditional female occupations. Analysis of the data showed no significant differences between the treatment groups and the control groups in terms of occupational interests. Leith suggested that the "actual viewing of female models in traditionally defined male occupations may have a much greater effect on career interest of girls in these occupations" (p. 46). Leith also recommended that it would be worthwhile to perform a similar study with boys and girls at the elementary school level.

A career education program for sixth grade children was developed by MacCulloch (1980). This program was an activities-based program which included five guest speaker presentations, a film on males and females in nontraditional roles, lessons pertaining to career interests, and lessons pertaining to career information. A second program entitled "Bread and Butterflies" (Agency for Instructional Television, 1974) consisted of a series of 15-minute videotapes presenting career awareness topics followed by group discussion. The two treatment groups and the control group met separately for two half-hour sessions per week over an 8-week period. Pre- and posttesting included the administration of the Sex Role Attitude Test and the Occupational Informational Subtest of the Career Maturity Inventory. On the Sex Role Attitude Test developed by Jack and Fitzsimmons (1979) children were requested to indicate who should do the job (women, men, either) for a list of 35 occupations and activities.

The results of the Sex Role Attitude Test revealed that girls had significantly more liberal attitudes toward nontraditional occupations than boys when posttest mean scores were compared. The treatments did not demonstrate a statistically significant main effect when posttest mean scores were compared; however, results of a *t*-test analysis revealed a significant difference between the pre- and posttest mean scores for the "Bread and Butterflies" treatment group. Results of the analysis of covariance indicated that there were no significant differences in posttest score means between the groups. The merit of the two treatment programs was indicated by the positive evaluations of these programs given by students and teachers. MacCulloch suggested that it would be worthwhile investigating the effects of similar programs which included lessons specifically dealing with nontraditional occupations. She also noted the need for self-constructed instruments that would be sensitive to measures of career information.

A preliminary study by the researcher (Eamon, 1983) investigated the relative effects of two types of programs in altering the sex-typed occupational attitudes of fourth grade children. Sixty-one children were randomly assigned to a role play treatment, a guest speaker presentation treatment, or a control. In the role play program children role played nontraditional occupations while in the guest speaker presentation group three males and three females presented their nontraditional occupations. Groups met for six 30-minute sessions over a period of 6 days. Posttests measuring career attitude, career interest, and career information were administered. A three-way analysis of variance was utilized to determine the effects of the factors of group, sex, and mother working versus mother not working. The results with respect to career attitude indicated that children in the role play program obtained significantly higher mean scores ($\underline{M}$ = 24.57) in terms of occupational liberality compared to children in the guest speaker presentation group ($\underline{M}$ = 16.85) and children in the control group ($\underline{M}$ = 20.75), $\underline{F}(2,49) = 4.18$, $\underline{p} < .02$. A Scheffe' Multiple Comparison showed that the children in the role play group scored significantly higher than the children in the guest speaker presentation group and the children in the control group. The children in the control group scored significantly higher than the children in the guest speaker presentation group. There was a significant sex effect in terms of career attitude with girls scoring higher than boys, $\underline{F}(1, 49) = 6.26$, $\underline{p} < .02$. In terms of career information there was a significant sex effect with girls scoring higher than boys, $\underline{F}(1, 49) = 27.39$, $\underline{p} < .00$. In terms of career interest children whose mothers worked scored significantly higher than children whose mothers did not work, $\underline{F}(1, 49) = 7.41$, $\underline{p} < .05$. The implication of this study was that there was a need to develop a more refined instrument to measure career information. Further program development would involve a selection of guest speakers, outside of school personnel, who would be unfamiliar to children. A weakness of the preliminary study was the utilization of guest speakers who were familiar to the students since they worked in the school (music teacher, vice-principal, principal). The novelty of role models from outside the schools may provide more student interest. Another weakness of the study was the lack of consistency in quality of presentation by guest speakers since structure and rehearsal was not provided and therefore consistency in quality of presentations was not controlled. Through the utilization of videotaped modeling the interviews with guest speakers could be rehearsed and refined.

There has been a limited number of career educational programs that involve the development, implementation, and evaluation of career attitude, career interest, and career information programs. The recommendations of researchers who have developed such programs suggest the need for the development of more intense programs at the elementary school level that focus on altering sex role stereotyped occupations towards the attitude of acceptance of nontraditional occupations for males and females. A second recommendation is the need to develop self-devised instruments to measure career attitude, career interest, and career information.

In summary, there appears to be a need for career education programs at the elementary school level that focus upon broadening children's attitudes toward nontraditional careers. Two approaches utilized in studies involving attitude change, the videotape modeling and the role play program, appear to be worthwhile topics of study. Because of the immediacy of role play, this approach appears to have particular merit.

The literature suggests that there are five factors pertaining to career education that need further investigation. Further investigation needs to be carried out to determine the effectiveness of these role play and videotape modeling programs in terms of career education. Further investigation needs to be carried out to determine if there is a differential effect in terms of career attitude, career interest, and career information determined on the basis of gender. Further investigation needs to be carried out to determine if there is a differential effect in terms of career attitude, career interest, and career information depending upon whether or not there is maternal employment. Further investigation needs to be carried out to determine if there is a differential effect in terms of career attitude, career interest, and career information determined on the basis of grade. Further investigation needs to be carried out to determine if there is a differential effect in terms of career attitude, career interest, and career information determined on the basis of time.

Based on a review of the literature it is proposed that the following questions be asked:

1. Can a classroom role play program be developed that specifically involves nontraditional occupations?
2. Will this program be more effective than a videotape modeling program in effecting change in children's career attitudes, career interests, and career information?
3. Will children in grade 5 differ from children in grade 4 in their career attitudes, career interests, and career information?
4. Will children of working mothers differ from children of nonworking mothers in their career attitudes, career interests, and career information?

5. Will boys differ from girls in their career attitudes, career interests, and career information?
6. Will the effects of career attitude, career information, and career interest be consistent from the time of posttesting to the time of the follow-up?

III. Method

A. Role Play Program

The researcher developed a role play program for the purposes of altering traditional career attitude, career interest, and career information. The role play program consisted of six lesson plans (see Appendix A) accompanied by teacher's guidelines. The teacher's guidelines consisted of behavioral objectives for each lesson and an overview of the lesson. Lesson plans consisted of teacher's commentary, examples presented by the teacher, student responses, student examples, and student activities. The lessons focused on sex role stereotyping in everyday life, sex role liberality in everyday life, sex role occupational stereotyping, and occupational liberality. Activities involved students role playing individually, in small groups, and in large groups. Student participation was encouraged through teacher and peer applause of performances.

B. Videotape Modeling Program

The researcher developed a videotape modeling program (see Appendix B) for the purpose of altering traditional sex-typed career attitudes, traditional sex-typed career interest, and career information. Six videotapes were produced by the researcher who interviewed six individuals employed in nontraditional occupations: female electrician, female engineer, female police officer, male clerk typist, male day-care worker, and male nurse. The guidelines for conducting these interviews were as follows: introduction of interviewee, nature of work, nontraditional nature of occupation, career preparation, places workers may seek employment, tools and equipment, advantages and disadvantages, job satisfaction, and future career prospects. Each interview was preceded and followed by on-the-job scenes. Group discussion was generated through a series of six questions presented both orally and visually at the end of the videotapes (see Appendix C). A teacher's guide for generating discussion was also supplied (see Appendix D).

C. Sample

One-hundred and thirty-nine subjects, all the grade 4 and grade 5 children, from a public school in Sherwood Park, Alberta participated in the study. There was a total of 32 girls and 28 boys from the fourth grade and a total of 40 girls and 39 boys from the fifth grade. The mean age of the participants was 9.8 years. The sample was primarily comprised of children from middle socio-economic backgrounds. A breakdown of the sample population was provided according to the variables: experimental group, sex, grade, and mother working versus not working (see Table 1; Tables can be found on pages 100 to 129 for ease of access). Information as to whether or not mothers worked was provided in writing by each subject and varified through school records.

D. Procedure

A posttest control group design with repeated measures was used. The independent variables in the study were the role play program and the videotape modeling program. The dependent variables were measures of career attitude, career information, and career interest. These outcome measures were assessed on two occasions, immediately after the treatments and again after a period of 7 weeks.

The three classrooms of grade 4 and the three classrooms of grade 5 children were randomly subdivided within class level. The three groups included: the role play group, the videotape modeling group, and the control group. Three grade 4 teachers and three grade 5 teachers led the groups at the corresponding grade levels. The grade 4 programs were run simultaneously as were the grade 5 programs. Each session was run during the same period each day for 30-minutes in length. Each group participated in six consecutive sessions over a 6-day period while participants in the control group watched wildlife films.

E. Measures

Sex Role Attitude Test - Revised. This instrument consisted of a list of 35 occupations and activities (see Appendix E). Directions were, "If there were 10 people, how many women and how many men should do the job?". An occupational liberality score was determined by responses that five women and five men should do the job. A subject's score could range from 0 (non-liberal) to 35 (total liberality).

This instrument was adapted from the Sex Role Attitude Test (Jack & Fitzsimmons, 1979). On the original instrument individuals were to rank each occupation or activity as being appropriate for a "woman", "man", or "either". These alternatives were chosen in response to the question, "Who should do the job?". An occupational liberality score was determined by calculating the total number of "either" responses. An individual's score could range from 0 (non-liberal) to 35 (total liberality). A preliminary study by the researcher (Eamon, 1983) demonstrated that the Sex Role Attitude Test - Revised was more sensitive to attitude change than the original instrument.

Sex Role Attitude Test - Revised (instructed items). While the Sex Role Attitude Test - Revised measured acceptance in terms of general attitudes toward nontraditional occupations, the instructed items measured acceptance of attitudes toward six specific nontraditional occupations presented in the videotape modeling program. These specific occupations were clerk typist, day-care worker, electrician, engineer, nurse, and police officer. Although these six occupations were presented as an extension of the Sex Role Attitude Test - Revised, they were analyzed independently. These six items were embedded in the longer list by placing one of the instructed items after every five noninstructed items. The instructed items were devised to find out if career attitudes were specific to the occupations presented in the videotape modeling program or if they generalized to various occupations and activities not presented in the videotapes. An occupational liberality score was determined by responses that five women and five men should do the job. An individual's score could range from 0 (non-liberal) to 6 (total liberality).

Career Information Questionnaire. Another aspect of the evaluation was the Career Information Questionnaire (see Appendix F) which was devised by the researcher. This questionnaire consisted of a list of three occupations, two traditionally performed by males (lawyer, sportscaster) and one traditionally performed by a female (bank teller). The directions were to, "Tell what the following people do at their jobs by listing 5 things they do". A score was determined by providing one point for each of the five items of information listed for an occupation. Since there were three occupations there was a total of 15 possible points. An individual's score could range from 0 to 15. Trial ratings of sample responses were made until a 99% level of agreement was reached consistently by two raters who scored the responses to this test.

Career Information Questionnaire (instructed items). While the Career Information Questionnaire measured general career information, the instructed items measured career information specifically presented through the videotape modeling program. These specific occupations were clerk typist, day-care worker, and police officer. Although these three items were presented as an extension of the three items in the Career Information Questionnaire, they were scored separately to accommodate the measure of specific career information. A score was determined by providing one point for each of the five items of information listed for an occupation. Since there were three occupations there was a total of 15 possible points. An individual's score could range from 0 to 15.

Career Interest Questionnaire. The Career Interest Questionnaire (see Appendix G) was devised by the researcher as a measure of career interest in nontraditional careers. This questionnaire consisted of a list of 12 occupations, six traditional male and six traditional female. These occupations were classified as traditionally male or traditionally female according to the results of several research studies (Barnhart, 1983; Gregg & Dobson, 1980; Jack & Fitzsimmons, 1979; Knell and Winer, 1979; Shepard & Hess, 1975; and Statistics Canada, 1981). "The literature defines traditional female occupations as those in which at least two-thirds of the workers are females, and non-traditional occupations as those in which two-thirds of the workers are male" (Glasgow, 1982, p. 1). According to Statistics Canada (1981) reports, less than one-third of employees were females and were working in the six occupations listed as traditionally male and less than one-third of employees were males in the six occupations listed as traditionally female. Individuals were asked to indicate how interested they would be in listening to a guest speaker presentation, in reference to a specific occupation at a Career Day. A 5-point Likert-type scale from very interested to not interested was used to rate career interest. Points were scored for choosing nontraditional occupations. Only the first three choices were scored if they were nontraditional. The score was calculated by doubling the value of these choices on the 5-point Likert-type scale. An individual's score could range from 0 to 30.

Career Interest Questionnaire (instructed items). While the Career Interest Questionnaire measured general career interest in nontraditional occupations, the instructed items measured career interest specifically pertaining to nontraditional careers presented through the videotape modeling program. These specific occupations were clerk typist, day-care worker, electrician, engineer, nurse, and police officer. Although these six occupations were presented as an extension of the Career Interest Questionnaire, they were analyzed separately from the 12 items on this form. Only the first three choices were scored if they were nontraditional. The score was calculated by doubling the value on the 5-point Likert-type scale. An individual's score could range from 0 to 30.

Student Evaluation. The researcher devised two evaluation forms for individuals in the role play program (see Appendix H) and individuals in the videotape modeling program (see Appendix I). The individuals in the role play program were requested to evaluate the program they participated in through their responses to eight questions on a 5-point Likert-type scale from very poor to excellent. The individuals in the videotape modeling program were requested to evaluate the program they participated in through their responses to seven questions on a 5-point Likert-type scale from very poor to excellent.

Teacher Evaluation. The classroom teachers who led the role play programs and the videotape modeling programs were requested to evaluate these programs on a 5-point Likert-type scale from very weak to very strong (see Appendix J). These programs were rated in terms of student interest level, career information, ease of implementation, content, and overall evaluation of the program. The classroom teachers who led these programs were also requested to comment on the strengths and weaknesses of these programs and recommend improvements.

Parent Evaluation. Parents of children participating in the role play program and the videotape modeling program were sent letters in which they were requested to comment in writing. The focus of those comments were: to provide information on how they perceived their children's reactions to the program; to provide information regarding their own views of the program; and to provide information on the value of such a program (see Appendix K).

F. Analysis of the Data

To test the hypotheses the immediate posttest data and the 7-week follow-up data were analyzed. A five-way analysis of variance with repeated measures was utilized to test for experimental group, grade, sex, mother working versus not working, and time variable effects within and between the role play group, the videotape modeling group, and the control group on each of six instruments. It was decided to accept as significant any difference in the probability for rejecting the null hypothesis that was less than .05. As the literature was obscure on any of the hypothesis, two tailed tests of significance were used throughout.

G. Hypotheses

Hypotheses were stated with regards to the treatments for each measure being used. A null hypothesis was stated with regards to the effects of group, sex, mother, grade, and time on students' career attitudes, career information, and career interests. The following statistical null hypotheses were tested:

1. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career attitude scores as measured by the Sex Role Attitude Test - Revised and the instructed items.
2. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career information scores as measured by the Career Information Questionnaire and the instructed items.
3. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career interest scores as measured by the Career Interest Questionnaire and the instructed items.

4. There will be no sigificant differences among the role play group, videotape modeling group, and classroom control group in terms of grade differences as measured by the Sex Role Attitude Test - Revised and the instructed items.
5. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of grade differences as measured by the Career Information Questionnaire and the instructed items.
6. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of grade differences as measured by the Career Interest Questionnaire and the instructed items.
7. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of sex differences as measured by the Sex Role Attitude Test - Revised and the instructed items.
8. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of sex differences as measured by the Career Information Questionnaire and the instructed items.
9. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of sex differences as measured by the Career Interest Questionnaire and the instructed items.

10. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career attitude of children of working mothers versus nonworking mothers as measured by the Sex Role Attitude Test - Revised and the instructed items.
11. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career attitude of children of working mothers versus nonworking mothers as measured by the Career Information Questionnaire and the instructed items.
12. There will be no significant differences among the role play group, videotape modeling group, and classroom control group in terms of career attitude of children of working mothers versus nonworking mothers as measured by the Career Interest Questionnaire and the instructed items.

IV. Results And Discussion

In the present study the data collected are analyzed using descriptive techniques and statistical tests. Descriptive techniques involve evaluation of the role play program and the videotape modeling program by students, teachers, and parents. Statistical analyses, a five-way analysis of variance with repeated measures, involve the comparison of mean scores at the time of posttesting with mean scores at the time of the 7-week follow-up. The results are presented in response to questions and hypotheses and followed by discussion.

A. Question 1

How will students evaluate the role play and the videotape modeling programs?

In order to determine the students' attitudes towards the two treatment programs, all of the 48 students in grades 4 and 5 who received the role play program and all of the 45 students in grades 4 and 5 who received the videotape modeling program evaluated these programs. A detailed analysis of the students' ratings of the role play program (see Table 2) and the videotape modeling program (see Table 3) was compiled by computing percentage scores for each evaluative statement.

A review of the data indicated that the majority of students rated the role play program and the videotape modeling program as being very good to excellent with the exception of an average to excellent rating for interest level of students in the videotape modeling group. Less than 10% of the students gave a rating of poor or very poor on any one question with the exception of rating of large group plays by students in the role play group. From the large percentage of favorable ratings it was concluded that the students held a positive view of the role play program and the videotape modeling program.

A detailed analysis of the students' ratings of the role play program and the videotape modeling program (see Table 4) was compiled by computing means and standard deviations for each evaluative statement. T tests were utilized to make comparisons of students' ratings for question 1 on interest, question 2 on information, question 3 on equality, and question 8 on quality of the discussion.

An analysis of the role play group and the videotape modeling group mean score differences for student interest (see Table 4) indicated that students in the role play group rated this program as being significantly more interesting than the students of the videotape modeling program, t (91) = 5.13, p.<001. T tests for the other three questions were not significant. The students in the role play group provided the following ratings: interest -- very good, information -- very good, equality -- very good, discussion -- very good, topics -- very good, role playing -- very good, small group -- very good, and large group -- average. The students in the videotape modeling group provided the following ratings: interest -- average, information -- very good, equality -- very good, discussion -- average, videotapes -- average, guest speakers -- average, and discussion questions -- average. The evaluation of all seven categories except for large group were rated as very good by the students in the role play group while the evaluation of all five categories except for information and equality were rated as average by the students in the videotape modeling group.

B. Question 2

How will the teachers evaluate the role play program and the videotape modeling program?

The two teachers who led the grade 4 and 5 role play programs and the two teachers who led the grade 4 and 5 videotape modeling programs were requested to rate these programs on a scale from very weak to very strong. These programs were rated in terms of student interest, career information, ease of implementation, content, ~~,~~ and overall effectiveness.

Both the grade 4 and 5 teachers rated student interest in the role play program as being very strong. The grade 5 teacher stated that, "the students enjoyed the program and many students brought costumes for each skit on their own initiative". The teachers' ratings were consistent with the students' ratings of the role play program.

There was a discrepancy between teachers' ratings of career information. The grade 4 teacher rated career information as being weak, qualifying this rating with the statement that the students did not receive information about specific occupations. The grade 5 teacher rated career information as being strong.

There was a discrepancy between the two teachers' ratings of the program in reference to ease of implementation. The grade 4 teacher stated that there was average ease of implementation and commented that "for me with my drama background the program was easy to implement but other teachers may have difficulty in handling role play groups". The grade 5 teacher rated the ease of implementation as being strong.

The grade 4 teacher rated the program content as being strong while the grade 5 teacher rated the program content as being very strong. Both these teachers made the suggestion that large group plays would be facilitated by dividing the students into three rather than two groups. This arrangement would provide more roles for the students and greater manageability.

Overall, the role play program was rated as being strong by both teachers. The grade 5 teacher stated that the program was a "good, practical hands on experience for children".

In evaluating the videotape modeling program there was a discrepancy between the grade 4 and 5 teachers' ratings. The grade 4 teacher rated student interest as being weak stating that the videotapes were "a little too passive", she further stated that, "seeing people at work rather than being interviewed may be more interesting to the students". The grade 5 teacher rated student interest as being strong. The students' self-ratings showed that 44.45% of the students rated career interest as being very good to excellent, 51.11% rated interest as being average, and 4.44% rated their career interest as being poor to very poor ($\underline{M}$ = 3.49).

In terms of career information, the grade 4 teacher rated the videotape modeling program as being average. The grade 5 teacher rated career information as being very strong stating that the videotapes were "very good". Seventy-five percent of the students rated career information as being very good to excellent ($\underline{M}$ = 4.04).

The grade 4 teacher rated ease of implementation as being strong and the grade 5 teacher rated ease of implementation as being very strong. The program content was rated as being average by the grade 4 teacher who stated "I think it is good to make students aware of stereotyping in careers but it is propaganda when all videos shown were atypical in terms of careers, some should be typical". The grade 5 teacher rated program content as being strong stating "excellent, guest speakers were sincere, honest, well-spoken and well presented".

The grade 4 teacher rated the overall program as being weak while the grade 5 teacher rated the overall program as being very strong. Both teachers stated that the discussion questions were too repetitive and they made the suggestion that a variety of questions similarly phrased can lead to similar answers. They suggested that discussion could be left open-ended to be generated by the students and teacher.

In summary, the two grade 5 teachers rated the role play program and the videotape modeling program higher than the two grade 4 teachers. Rather than conclude that these programs are more suitable for grade 5 students than grade 4 students, it is concluded that teaching styles involving preferences for certain learning strategies may facilitate certain programs. When the teachers' evaluations were viewed in conjunction with the students' evaluations, these programs were deemed suitable at both the grade 4 and 5 levels.

C. Question 3

How will the parents evaluate the role play and the videotape modeling program?

To provide the parents of students involved in the role play program and the videotape modeling program with an opportunity to evaluate these programs, a letter was sent to these parents. Parents were requested to comment on their children's responses to the programs, their own responses to the programs and the perceived value of the programs. Of the 93 letters sent to parents, 64 letters were returned with comments from parents, this represented a 68.82% response rate. Fifty-eight parents (90.63%) responded positively to the programs while six parents (9.38%) were skeptical of the value of such programs in the elementary school.

Some of the comments provided by parents who responded positively to the role play program and the videotape modeling program were as follows: "My reaction to this program is definitely positive", "I feel that it is very important to overcome stereotype roles based upon sex", "The younger the children are when they are exposed to this type of program the better the chances of success in eliminating the stereotyping of occupations on a male/female basis", "I think a large number of children are not receiving positive input at home in this area and it is essential that they get it somewhere", and "My child enjoyed the program".

The comments of two parents who were critical of the role play program for their daughters in grade 5 were as follows: "We do not perceive the career program as valuable at the nine and ten year level but we appreciate the concept", and "I do not see the need for it".

The comments of the four parents who were critical of the videotape modeling program for their two sons and two daughters in grade 5 stated the following: "My child is not really interested in future goals right now, most children are aware of job opportunities"; "My child found the program boring; these children are too young for this program, it is not necessary"; "My child realizes that females and males can handle the same positions, this principle is promoted at home; this program is premature for grade 5, time would be best spent in ways to make a child feel good about himself, there are some valuable options; there is more value in developing many interests and exploring numerous talents". It was noted that of the six critical comments from parents none of the comments came from parents of students in grade 4.

Data Analysis

Subjects were tested on two occasions, in posttests and in a 7-week follow-up using six dependent measures: two measures of career attitude, two measures of career information, and two measures of career interest.

In order to determine if there was stability or deterioration over time, scores on the posttests and scores on the 7-week follow-up were compared by a five-way analysis of variance with repeated measures on the following independent variables: experimental group, grade, sex, mother working versus not working, and time (posttest versus follow-up). It was decided to accept as significant any difference for which the probability for rejecting the null hypothesis was less than .05.

The cell sizes for the five-way anova were shown in Table 1 according to the variables: experimental group, grade, sex, and mother working versus not working. Means and standard deviations were calculated from the analyses of variance for groups in six dependent measures in the posttesting and in the 7-week follow-up (see Table 5). Means and standard deviations for groups on the posttest and the 7-week follow-up were also calculated separately for grade 4 children and grade 5 children (see Table 6).

The following hypotheses were tested to see: whether there was a difference between the role play group, the videotape modeling group, and the control group (group effect); whether there was a difference between boys and girls (sex effect); whether there was a difference between grade 4 and grade 5 students (grade effect); whether there was a difference between students whose mothers worked and students whose mothers did not work (mother effect); and whether there was a difference between posttesting and 7-week follow-up scores (time effect).

D. Null Hypothesis 1

> There will be no significant difference on the variables of experimental group, grade, sex, mother working versus not working, or time in terms of the posttest and the 7-week follow-up for career attitude as measured for the instructed items and the noninstructed items of the Sex Role Attitude Test - Revised.

According to the premise of social learning theory that covert rehearsal followed by overt rehearsal leads to the most powerful modeling, the children in the role play group were expected to obtain the highest mean attitude scores followed by the children in the videotape modeling group. It was anticipated that the lowest mean attitude scores would be obtained by children in the control group for the dependent variable of Sex Role Attitude Test - Revised (instructed items). The children in the videotape modeling group had the added advantage of being exposed to videotaped interviews of individuals in the same nontraditional occupations as those listed on the assessment instrument.

In a five-way analysis of variance with repeated measures involving the instructed items of the Sex Role Attitude Test - Revised there was no significant five-way interaction (see Table 7). There was, however, a significant three-way interaction effect of experimental group by grade by time, $F(2, 115) = 3.24$, $p < .04$. There was a significant two-way interaction of grade by sex, $F(1, 115) = 6.00$, $p < .02$. There was a significant main effect of grade, $F(1, 115) = 8.03$, $p < .01$ and also a significant main effect of mother working versus not working, $F = 5.68$, $p < .02$. These interactions suggested that the independent variables were combining in various ways to influence the dependent variable. The cell means were shown in Table 7a. Since the highest order interaction which demonstrated significance was the experimental group by grade by time interaction, the data were collapsed into the means shown in Table 7b.

It was predicted that at the time of posttesting the mean attitude scores of children in the role play group would be the highest. At grade 4, the mean attitude scores for children in the videotape modeling group and the mean attitude scores for the children in the control group exceeded scores of children in the role play group but the differences were not significant ($F(2, 115) = 2.80$, $p > .05$ and $F(2, 115) = .13$, $p > .05$, respectively). There was no significant difference in the mean attitude scores for children in the videotape modeling group and children in the control group, $F(2, 115) = 0.63$, p .05. At grade 5, the mean scores of children in the role play group exceeded the mean scores of the children in the control group as expected and this difference was significant $F(2, 115) = 8.75$, $p < .01$. The scores for children in the role play group were higher than the scores for children in the videotape modeling group as predicted; however, this difference was not significant, $F(2, 115) = 1.80$, $p > .05$. There was no significant difference in mean attitude scores for children in the videotape modeling group and children in the control group, $F(2, 115) = 1.47$, $p > .05$.

The results of grade 4 children at the time of the 7-week follow-up were contrary to expectations with the children in the control group obtaining higher mean attitude scores than the children in the role play group, $F(2, 115) = .01$, $p > .05$, and the children in the videotape modeling group, F(2, 115) = 1.05, $p > .05$, but these differences were not significant. To confuse the issue, at grade 5 the mean attitude scores of children in the videotape modeling group were significantly higher than the mean scores of children in the control group, F(2, 115) = 4.95, $p < .01$ and children in the role play group, F(2, 115) = 4.64, $p < .05$. There was no significant difference in mean attitude scores for children in the role play group and the control group, F(2, 115) = 0.01, $p > .05$.

The researcher had not originally planned to reassess children in a 7-week follow-up. The inconsistencies from the time of posttesting to the time of the 7-week follow-up may be accounted for by the introduction of career awareness activities in the individual classrooms following posttesting. Discussion among children and their teachers, classmates, and parents following posttesting may have also produced confounding effects. Another factor to take into account was the reassessment of children with the same instrument. By asking children to explore their own attitudes regarding males and females in traditional and nontraditional occupations children were given the idea that their own opinions were worthwhile whether or not they exemplified the majority of work roles observed in everyday life. Judging from the number of children who asked whether they were to state their own opinion or to state what they actually observed from work models it was apparent that these children were perceiving a difference between their attitudes and their observations.

In a five-way analysis of variance with repeated measures involving noninstructed items of the Sex Role Attitude Test - Revised there was no significant five-way interaction (see Table 8). There was, however, a significant four-way interaction effect of experimental group by grade by mother working versus not working by time, F(2, 115) = 3.13, $p < .05$. There were two significant three-way interaction effects of experimental group by grade by time, F(2, 115) = 3.25, $p < .04$ and experimental group by grade by mother working versus not working, F(2, 115) = 4.43, $p < .01$. There was a significant two-way interaction effect of grade by sex, F(2, 115) = 10.92, $p < .001$. There was also two main effects of grade, F(1, 115) = 4.41, $p < .04$ and time, F(1, 115) = 23.84, $p < .001$. These significant interaction effects suggested that the independent variables were once again combining in various ways to influence this dependent variable. To investigate career attitude (noninstructed items) the researcher reorganized the data in the cell means shown in Table 8a. Three of the factors were not manipulated (grade, sex, and mother working versus not working) while the other two variables were under a more direct research control -- experimental group and time. It was decided to focus on the results of the experimental group by time factors for each of the eight situations defined by other variables.

In Table 8a considering first of all the results on the posttest, six out of the eight cases showed that the role play group means were higher than the videotape modeling group means and the control group means. In the following three situations the differences were significant: for grade 5 boys with nonworking mothers the role play means were higher than the control means, F(2, 115) = 3.27, $p < .05$ and the videotape modeling means, F(2, 115) = 4.68, $p < .05$; and for grade 5 girls with nonworking mothers the role play means were higher than the control means, F(2, 115) = 14.34, $p < .01$. In the case of grade 4 children with nonworking mothers the control groups for both boys and girls had higher means than the role play groups.

Thus in most cases the role play program had a beneficial effect on changing attitudes toward sex role occupational liberality at least in comparison to the control group, and always would be the treatment of choice over the videotape modeling program -- although the difference was only significant in the case of grade 5 boys with nonworking mothers, $\underline{F}(2, 115) = 4.68$, $\underline{p} < .05$.

The question that arises was how do these results generalize to the 7-week follow-up. For grade 4 children with nonworking mothers this trend of higher mean attitude scores for children in the role play group compared to children in the videotape modeling group and the control group continues. However, this trend was inconsistent for grade 5 children with working mothers. This led to the conclusion that the influences of the treatment changes from the time of posttesting to the time of the 7-week follow-up. During the 7 weeks between the time of posttesting and the time of follow-up a career awareness program was implemented within each classroom for 30 minutes per week. This program consisted of various career awareness activities such as videotapes from the series "Bread and Butterflies" and the game "What's My Line". Following the posttesting the children who participated in the experimental groups were debriefed with discussion by children with teachers, classmates, and parents being encouraged by the researcher. At this time a 7-week follow-up had not been planned. Because of the career awareness activities that occurred between the time of posttesting and the time of the 7-week follow-up, the results from the follow-up represented the effects of time confounded with treatment activities; therefore, it was decided to have a quick look at the four-way anova on posttest only results.

The four-way analysis of variance utilizing the mean attitude scores of the Sex Role Attitude Test - Revised (noninstructed items) resulted in a significant two-way interaction effect of sex by grade and a significant main effect of group (see Table 8b). There was a significant grade by sex interaction effect, $\underline{F}(1, 115) = 10.92$, $\underline{p} < .001$. While girls' mean attitude scores increased from grade 4 to grade 5, the boys' mean attitude scores were high in grade 4 but decreased from grade 4 to grade 5. The increase in occupational liberality over grades for girls was supported by several research studies while the decrease in occupational sex role liberality over grades for boys was contrary to results reported in several research studies that sex role liberality increased with age (Archer, 1984; Garrett, Ein, & White, 1976; O'Bryant, Durrett, & Pennebaker, 1978; O'Keefe & Hyde, 1983; Shepard & Hess, 1975; Umstot, 1980). Only a few research studies supported the findings that sex role liberality decreased over the school years for boys (Cann & Haight, 1983; Gettys & Cann, 1983; Teglasi, 1981). The higher mean attitude scores for girls in grade 5 compared to boys in the same grade were supported by several research studies (Archer, 1984; Jack & Fitzsimmons, 1979; Kriedberg, Butcher, & White, 1978; Shepard & Hess, 1975; Teglasi, 1981; Tremaine & Schau, 1979).

There was also a significant main experimental group effect, $\underline{F}(2, 115) = 4.26$, $\underline{p} < .01$. A Scheffè Multiple Comparison demonstrated a statistically significant difference between the role play group and the control group with the role play group scoring higher than the control group, $\underline{F}(2, 115) = 3.68$, $\underline{p} < .05$. Although the children in the role play group ($\underline{M} = 14.63$) scored higher than the children in the videotape modeling group ($\underline{M} = 11.69$), this difference was not significant, $\underline{F}(2, 115) = 2.54$, $\underline{p} > .05$. There was no significant difference in mean attitude scores for children in the videotape modeling group and children in the control group, $F(2, 115) = 0.09$, $p > .05$. The children in the role play group demonstrated higher occupational liberality compared to children in the videotape modeling group and children in the control group. These results were supported by Bandura's (1977) statement that the most powerful modeling involved covert rehearsal followed by overt rehearsal (i.e., role play). Attitude change through role play was also supported by several research studies (Haney, Banks, & Zimbardo, 1973; Lira, Nay, McCullough, & Elkin, 1975; Mann & Janis, 1968; Taylor & Smith, 1972).

E. Null Hypothesis 2

> There will be no significant difference on the variables of experimental group, grade, sex, mother working versus not working, or time in terms of the posttest and the 7-week follow-up for career information as measured by the instructed items and the noninstructed items of the Career Information Questionnaire.

Since the children in the videotape modeling group viewed videotapes of individuals being interviewed with regards to their nontraditional occupations it was predicted that the children in this group would score higher than the children in the role play group and the control group. The following interview format utilized with each interviewee enhanced career information: introduction of interviewee, nature of work, nontraditional natu[illegible] of work, education, training, and career entry.

In a five-way analysis of variance with repeated measures involving instructed items of the Career Information Questionnaire there was no significant five-way interaction (see Table 9). There were, however, significant main effects which suggested that the independent variables were combining in consistent ways to influence this dependent variable. To investigate career information (instructed items) the cell means were shown in Table 9a. Since there was no significant interaction, attention was directed to the main effects.

There was a significant main effect of experimental group, $\underline{F}(2, 115) = 4.78$, $\underline{p} < .01$. A Scheffé Multiple Comparison demonstrated that the children in the videotape modeling group scored significantly higher than the children in the role play group, $\underline{F}(2, 115) = 4.22$, $\underline{p} < .05$ and the children in the control group, $\underline{F}(2, 115) = 4.20$, $\underline{p} < .05$; the latter groups did not differ, $\underline{F}(2, 115) = .33$, $\underline{p} > .05$. The children in the videotape modeling group were required to list career information pertaining to the following three occupations: clerk typist, daycare worker, and police officer. Individuals in these three occupations were interviewed and these interviews were viewed by the children in the videotape modeling group but not by the children in the role play group or the control group. The two representational systems involved in the videotape modeling program were observational modeling which was coded through visual imagery and the verbal representation which relies on the use of words, concise labels, and mnemonic codes (Bandura, 1977). Skill training through covert rehearsal was supported by several research studies (Dailey & Haplin, 1981; MacCulloch, 1980; McFall & Lillesand, 1971; McFall & Twentyman, 1973). Borgen and Young's (1980) findings that children at the upper elementary school level utilized descriptive methods as a framework for occupational information was supported in the present study.

In addition, there was a significant main effect of grade, F(2, 115) = 11.78, $p < .001$ with grade 5 children scoring higher than grade 4 children. The higher mean information scores for grade 5 children compared to grade 4 children could result from a higher level of cognitive functioning including improvement in effective coding devices, words, mnemonic devices, and concise labeling for rehearsing covertly.

There was also a significant main effect of time, F(1, 115) = 6.95, $p < .01$ with children scoring higher at the time of posttesting compared to the time of the 7-week follow-up. The lack of opportunity for rehearsal from the time of posttesting to the time of the 7-week follow-up could result in a decrease in mean information scores. The nature of the task may have contributed to the decrease in the quality of performance since detailed written responses were required for a second time. Such a task could become tedious when performed twice.

In a five-way analysis of variance with repeated measures involving noninstructed items of the Career Information Questionnaire there was no significant five-way interaction (see Table 10). There were, however, significant main effects which suggested that the independent variables were combining in consistent ways to influence the dependent variables. The cell means were shown in Table 10a. Since there was no significant interaction, attention was directed at the main effects. The significant main effects for the noninstructed items were consistent with the main effect for the instructed items.

There was a significant main effect of experimental group, F(2, 115) = 4.01, $p < .02$. A Scheffè Multiple Comparison showed that the children in the videotape modeling group scored significantly higher than the children in the role play group, $F(2, 115) = 4.55$, $p < .05$ and the children in the control group, $F(2, 115) = 4.51$, $p < .05$; the latter groups did not differ, $F(2, 115) = .00$, $p > .05$. Although the children in the videotape modeling group were not exposed to videotapes of interviews in the occupations on the assessment instrument, the exposure to specific occupations could have assisted these children in developing a cognitive structure useful in describing general occupations.

A significant main effect of grade with grade 5 children scoring higher than grade 4 children, $F(2, 115) = 35.74$, $p < .001$ was obtained. These effects could result from a higher level of cognitive functioning including improved coding devices (words, concise labels, and mnemonic devices) for children in grade 5 compared to children in grade 4. Another possibility was that grade 5 children have had greater opportunity to gain experience with various occupations compared to grade 4 children.

There was also a significant main effect of time, $F(1, 115) = 16.65$, $p < .001$ with children scoring higher at the time of posttesting compared to children at the time of the 7-week follow-up. The nature of the task may have decreased the quality of performance since detailed written responses were required for a second time. Besides the tedious nature of the task, another factor may be a decrease in performance due to the lack of opportunity of rehearsal.

In summary the results of the data analysis were similar for the instructed items and noninstructed items of the Career Information Questionnaire. In both instances, there was a main effect of group with the children in the videotape modeling group scoring higher than the children in the role play group and the control group. A main effect of grade demonstrated that grade 5 children scored higher than grade 4 children. There was also a main effect of time with children scoring higher at the time of posttesting than at the time of the 7-week follow-up.

F. Null Hypothesis 3

> There will be no significant difference on the variables of experimental group, grade, sex, mother working versus not working, or time in terms of the posttest and the 7-week follow-up for career interest as measured by the instructed items and the noninstructed items on the Career Interest Questionnaire.

In a five-way analysis of variance with repeated measures involving instructed items of the Career Interest Questionnaire the interest dependent variable yielded a significant five-way interaction, and two significant four-way interactions (see Table 11). Again, the cell means were shown in Table 11a according to the format decided earlier with emphasis on post hoc analysis directed toward the manipulated variables.

From Table 11a, the first observation of note was that for grade 5 boys, most of the cell means were zero indicating very low -- perhaps no interest in nontraditional occupations as measured by the career interest instrument. It may be the case that at least part of the reason for the interaction effect was the lack of descrimination power in the test for boys of this grade level. The researcher was unwilling to conduct comparisons with group means of zero since it was believed that zero does not represent an accurate (comparable) assessment of career interest.

In the case of boys with working mothers, there was some indication that in the control group and the videotape modeling group there was some degree of interest expressed in nontraditional careers at the time of follow-up, but no comparisons were made with means of zero. Similarly, in the case of grade 4 girls with working mothers and grade 5 girls with working mothers no comparisons were made since there were means of zero.

The mean interest scores of grade 4 girls and grade 5 girls with nonworking mothers were confusing. Grade 4 girls in the role play group with nonworking mothers scored significantly higher than grade 4 girls in the control group with nonworking mothers at the time of posttesting, $\underline{F}(1, 115) = 5.26$, $\underline{p} < .01$. However, at the time of the 7-week follow-up the grade 4 girls in the videotape modeling group with nonworking mothers scored significantly higher than grade 4 girls in the control group with nonworking mothers at the time of posttesting, $\underline{F}(1, 115) = 7.31$, $\underline{p} < .01$. It further confused the issue to find nonsignificant differences between the group means interest scores for grade 5 girls.

A five-way analysis of variance with repeated measures demonstrated that there were no significant effects according to the mean interest scores for noninstructed items on the Career Interest Questionnaire (see Table 12). This result supported the finding of a floor effect for the mean interest score on the instructed items. This career interest instrument may not have been sensitive enough to measure nontraditional occupational interest.

G. Discussion

A brief summary of the results of evaluations of the role play program and the videotape modeling program by students, teachers, and parents will be presented. This will be followed by a discussion of major findings on measures of career attitude, career information, and career interest.

Generalization of treatment from specific occupational information obtained from the videotape modeling program to more general occupation information measured by the noninstructed items of the Career Information Questionnaire will be reported. Finally maintenance of career attitude and career information over time will be discussed.

Program Effectiveness. The role play program and the videotape modeling program were well accepted by students, teachers, and parents. Over 50% of the students rated these programs as being very good to excellent while less than 10% of the students gave these programs a poor to very poor rating. The teachers' evaluations of these programs were primarily positive. From the responses of parents with children who participated in these programs, it was found that over 90% of the responses were positive.

Measures of Career Attitude. On the generalized measure of career attitude, the Sex Role Attitude Test - Revised (noninstructed items), for the four-way anova at the time of posttesting the role play program was shown to be effective in altering attitudes towards acceptance of males and females in nontraditional occupations. The videotape modeling program did not bring about an attitude change towards acceptance of males and females in nontraditional occupations. These results supported Bandura's (1977) statement that the combined effect of covert rehearsal followed by overt rehearsal (i.e., role play) was the most powerful modeling condition. The purpose of the following paragraphs was to compare the effects of a role play program and a videotape modeling program in terms of four component learning processes: attention, retention, motor reproduction and motivation. The results of this discussion led to the conclusion that the role play program was a more effective treatment than the videotape modeling program for enhancing sex role occupational liberality.

For effective learning to occur, children must attend to, select, and extract the relevant features of the stimuli. Attentional processes were influenced by the nature of the stimuli, characteristics of the individual, and the social interactional milieu. Five features of the stimuli (distinctiveness, affective valence, complexity, prevalence, and functional value) affected the proficiency in which stimuli were conveyed to the children in terms of salience, meaningfulness, and utility.

The role play program was strong in terms of attentional processes since children were compelled to actively participate in skits. The opportunity for children to interact with their peers also contributed in terms of attentional processes, as well the children were also apt to attend since the sessions were novel. Another contributing factor was the short skits with their quick pace and continuous change of activities. The videotape modeling program was moderate in terms of attentional processes. It was novel to have a videotaped interview for children. The fact that the interviewee was an adult added prestige and thus encouraged the children to be attentive. The change from the presentation to a short discussion period enhanced attentional processes. The children had a limited opportunity to be actively involved through answering questions about the interview.

Retention was the process by which learning has value when it can be recalled or reproduced. The role play program was strong in terms of retentional processes in that covert cognitive rehearsal was immediately followed by overt behavioral rehearsal through the role play. Bandura (1977) stated that a combination of a covert response followed by an overt response was the most effective learning situation. The fact that there were several different role play situations strengthened the retention processes.

There was a moderate use of retentional processes in the videotape modeling program. The two representational systems through observations were imaginal and verbal. In imaginal representation, observational learning was coded through visual imagery, while verbal representation relies on the use of words, concise labels, or mnemonic codes (Bandura, 1977). Retention memory was aided by rehearsing covertly. There was also vicarious modeling by the interviewees in nontraditional occupations.

Motor reproduction involved self-observations and accuracy of feedback during enactment and served to reduce the discrepancies between the symbolic representations and their physical performance. The physical capabilities of component responses in the children's behavioral repertoire determined how well a learned response would be reproduced (Bandura, 1977).

The role play program was strong in terms of motor reproduction processes since covert rehearsal was demonstrated in overt behavioral rehearsal. Overt behavioral rehearsal would be separated into cognitive organization of responses, imitation, monitoring, and refinement of the basis of informational feedback. The children were given the opportunity to refine their role play by the feedback they received from their peers and their teacher. Self-corrective adjustment occurred on the basis of this feedback.

The videotape modeling program was moderately effective in terms of motor reproduction processes. Cognition was selected and organized at the covert level. The discussion period provided a limited opportunity for the children to obtain feedback and to confirm or adjust their cognitive perceptions.

Reinforcement in social learning theory acted as a motivator rather than as an automatic strengthener of responses (Bandura, 1977). Motivational processes may take on the form of external reinforcers or self-reinforcers.

The role play program was strong in terms of motivational processes. Because the experience was designed to be positive rather than negative, the children were more likely to reproduce the same responses in the future. Peers added to this positive experience by providing reinforcement through verbal and nonverbal acceptance. The teacher made a point of providing verbal praise. By having the children participate in short skits, they had the self-satisfaction of accomplishing the skits.

The motivational process was at the moderate level with regards to the videotape modeling program. The children obtained vicarious reinforcement through association with the interviewees. The limited opportunity for discussion provided children with positive feedback from their teachers and peers.

The children in the role play group demonstrated higher sex role occupational liberality compared to children in the videotape modeling group and the children in the control group as reported in the four-way anova on posttest only results. Attitude change through role play was also supported by several research studies (Haney, Bank, & Zimbardo, 1978; Lira, Nay, McCullough, & Elkin, 1975; Mann & Janis, 1968; Taylor & Smith, 1972).

The increase in occupational liberality over grades for girls on the anova for posttest measures was supported by several research studies while the decrease in occupational sex role liberality over grades for boys as shown in a grade by sex interaction was contrary to results reported in several research studies that sex role liberality increased with age (Archer, 1984; Garrett, Ein, & White, 1976; O'Bryant, Durrett, & Pennebaker, 1978; O'Keefe & Hyde, 1983; Shepard & Hess, 1975; Umstot, 1980). Only a few research studies supported the findings that sex role liberality decreased over the school years for boys (Cann & Haight, 1983; Gettys & Cann, 1983; Teglasi, 1981). The higher mean attitude scores for girls in grade 5 compared to boys in the same grade were supported by several research studies (Archer, 1984; Jack & Fitzsimmons, 1979; Kriedberg, Butcher, & White, 1978; Shepard & Hess, 1975; Teglasi, 1981; Tremaine & Schau, 1979).

Measures of Career Information. On the instructed items and noninstructed items of career information measures the children in the videotape modeling group obtained higher scores than the children in the role play group and the children in the control group. The children in the videotape modeling group viewed six individuals who were interviewed regarding the nature of the work they performed. Each of these interviewees described his/her job duties. Exposure to descriptions of these specific job duties assisted children to generalize in descriptive ways to occupations not presented through the videotapes (noninstructed items) as well as occupations presented on the videotapes (instructed items). The two representational systems involved in the videotape modeling program were observational modeling which was coded through visual imagery and the verbal representation which relies on the use of words, concise labels, and mnemonic codes (Bandura, 1977). Skill training through covert rehearsal was supported by several research studies (Dailey & Haplin, 1981; MacCulloch, 1980; McFall & Lillesand, 1971; McFall & Twentyman, 1973). Borgen and Young (1982) found that career information could be maximized at the upper elementary school level through a descriptive approach to job duties.

As would be expected, the children in grade 5 scored higher on measures of career information compared to the children in grade 4. Since grade 5 children were a year advanced in their cognitive functioning as compared to grade 4 children, this included the use of effective coding devices, words, mnemonic devices, and concise labeling. Grade 5 children have had more opportunities than grade 4 children to gain experience and to learn about individuals in various occupations.

The children in the videotape modeling group scored higher at the time of posttesting compared to the time of follow-up. The nature of the task may have contributed to this decrease in the quality of performance since detailed written responses were required. Such a task could become tedious when performed for a second time. The initial writing of this instrument may have been novel; however, the readministration may have become tedious as the novelty wore off. The children did not appear to be as enthusiastic about the readministration of the career information instruments compared to the readministration of the career attitude instruments and the career interest instruments.

Measures of Career Interest. The floor effect created by mean scores of zero on the Career Interest Questionnaire (instructed items) suggested that this measure of career interest lacked sensitivity in measuring nontraditional career interests. It may be the case that at least part of the reason for the zero mean score was lack of discrimination power in the test for children at this age. It was believed that zero did not represent an accurate (comparable) assessment of career interest. The lack of significant effects for results of the mean career interest scores on the Career Interest Questionnaire (noninstructed items) supported the findings that this measure of career interest was not sensitive enough to descriminate children's interests in nontraditional careers.

Possibly a more sensitive career interest instrument would be the following questions: "When you get older, would you rather be a (female occupation) or (male occupation)?", "What would you like to be when you grow up?", "What do you really think you will be when you grow up?", and "What would you like to be when you grow up if you were of the opposite sex?" These questions represent career interests and realistic career aspirations for children. Several research studies have involved the use of these questions as measures of career interest (Archer, 1984; Beuf, 1974; Kriedberg, Butcher, & White, 1978; Looft, 1971a; Looft, 1971b; O'Bryant, Durrett, & Pennebaker, 1978; Papalia & Tennent, 1975; Schlossberg & Goodman, 1972; Tremaine & Schau, 1979; Tremaine, Schau, & Busch, 1982; Umstot, 1980; Weeks & Potter, 1983; Weeks, Thornburg, & Little, 1977).

In several research studies girls scored higher than boys on measures of career interest in nontraditional occupations (Kriedberg, Butcher, & White, 1978; Tremaine & Schau, 1979). It appeared that girls had more to gain in terms of status and prestige in aspiring to traditional male occupations while the reverse did not apply since female occupations were usually low in status and prestige. These results were not found to be significant in the present study.

Generalization of Career Information. It was of interest to note that in the videotape modeling program career information generalized from information presented in videotapes as measured by instructed items to information measured by noninstructed items. The children in the videotape modeling group were able to generalize the information they had learned through modeling to career information not specifically learned through this program. These results were supported by Borgen and Young's (1982) findings that children at the upper elementary school level utilized descriptive means as a framework in which to tell what they knew about careers.

Maintenance of Career Attitude. Maintenance of career attitude over time on the Sex Role Attitude Test - Revised (noninstructed items) was evaluated by the comparison of mean attitude scores at the time of posttesting and at the time of the 7-week follow-up. On the career attitude posttest the children in the role play group had scored higher than the children in the videotape modeling group and the children in the control group. This level of sex role occupational liberality for the children in the role play group was sustained at the time of the 7-week follow-up. However, there was no longer a statistically significant difference between children in the role play group, the videotape modeling group, and the control group. The mean scores for the children in the role play group had increased slightly from the time of posttesting; whereas, the mean scores of children in the videotape modeling group and the control group had increased to the extent that there was no longer a statistically significant difference between groups. One argument for this increase in scores for children in the videotape modeling group after posttesting was that the treatment had a delayed effect on attitude change. However, a number of possible reasons for the unexpected change in attitude toward occupational liberality for children in the control group were discussed.

One possibility was that there may have been a practice effect in taking the career attitude test which resulted in improvements at the time of the 7-week follow-up assessment for the control group. The same possibility must be considered in the speculations regarding the reasons for children in the videotape modeling group and the role play group increasing their sex role occupational liberality scores over time.

Since the children in the control group were not provided with any lessons pertaining to sex role occupational liberality their mental set at the time of posttesting may not have been organized in a structure conducive to responding to a career attitude assessment instrument. During the ensuing weeks between the posttesting and the 7-week follow-up these children had the time to think about what was required and this may have improved their performance.

Another possibility was that children in the different groups, after a debriefing from the researcher and the introduction of a general career awareness program within the classrooms following the posttesting, may have discussed with parents, classmates, and teachers who were involved in the programs details about these programs.

Maintenance of Career Information. Although the children in the videotape modeling group maintained higher mean scores than children in the role play group and the control group on the instructed items and noninstructed items of the Career Information Questionnaire, the retention of career information dropped significantly from the time of posttesting to the time of the 7-week follow-up. It was expected that retention of career information would deteriorate over time since learning was not reinforced through practice. The slight decrease in scores over time for the children in the videotape modeling group coincided with the decrease in scores over time for the children in the role play group and the control group; therefore, at the time of the 7-week follow-up the mean career information scores for children in the videotape modeling group were still significantly higher than the mean career information scores for the children in the role play group and the children in the control group. However, the slight decrease in scores over time for the children in all three groups, including the control group, suggested that these children may have found the readministration of measures of career information to be tedious since lengthy written responses were required. This task my have lost its novelty; therefore children may have been less motivated to place their full efforts into this task.

Conclusions. In conclusion, the role play program was a more effective means of changing career attitude towards sex role occupational liberality while the videotape modeling program was a more effective means of providing career information. Neither the role play program nor the videotape modeling program were effective in developing career interest toward nontraditional occupations as measured by the instructed items and noninstructed items of the Career Interest Questionnaire.

V. Summary

In this chapter a brief overview of the study is presented along with conclusions and implications of the results. Recommendations for further research are also presented.

The present study was conducted to investigate an unresolved issue in the literature relating to the modeling component of attitude change. The issue in career education, concerned the preferable way of rehearsing the modeled message. Two methods are supported in the literature, role play and videotape modeling. The results of a preliminary study by the researcher involving a role play and a guest speaker presentation program suggested that the children receiving the role play program were significantly higher in sex role occupational liberality compared to children in the control group.

The study also investigated the effectiveness of the role play program and the videotape modeling program in promoting nontraditional career attitudes, nontraditional career interests, and career information. A rationale supporting the hypothesis that the role play program would be superior to the videotape modeling program in promoting nontraditional career attitudes was developed.

Fourth and fifth grade children attending a public school in Sherwood Park, Alberta were involved in this study. One-hundred and thirty-nine children completed programs and tests. The role play program and the videotape modeling program were designed to: develop acceptance of nontraditional career attitudes, nontraditional career interests, and career information. Each program consisted of six sessions, 30-minutes in duration, conducted over six consecutive school days.

Students, teachers, and parents were requested to evaluate the role play program and the videotape modeling program. Six tests were also administered. There was a specific and generalized measure of career attitude, career information, and career interest. The readministration of these six instruments in a 7-week follow-up provided measures of maintenance of results over time.

The results of the evaluation of the role play program and the videotape modeling program by students, teachers, and parents were primarily positive. The results of the statistical analyses reported in the previous chapter clearly demonstrated that the role play program was superior in terms of altering children's attitudes toward occupational liberality while the videotape modeling program was superior in terms of gaining career information specific to occupations viewed on the videotapes and generalized to various occupations not shown on the videotapes.

Comparisons of the groups showed that the children in the role play group scored significantly higher compared to children in the control group on the measure of occupational liberality. From the results of a 7-week follow-up, the role play group showed stability over time on the measure of occupational liberality.

The children in the videotape modeling group performed significantly higher as compared to children in the control group on measures of specific and generalized career information. Although there was significant decrease in career information from the time of posttesting to the 7-week follow-up, the children in the videotape modeling group maintained superiority on career information measures as compared to the children in the videotape modeling group and the control group.

A. Conclusions of the Classroom Role Play Program and the Videotape Modeling Program

The major issue investigated in the study was the effect of the role play program and videotape modeling program in enhancing nontraditional career attitude, nontraditional career interest, and career information. The results of the present study indicated that the role play group was significantly more effective as compared to the control group in enhancing occupational liberality. It was concluded that by including covert rehearsal followed by overt rehearsal children are better able to develop attitude change. The attitude change made by the children in the role play group remained stable over 7 weeks as indicated in the 7-week follow-up.

A second conclusion drawn from the findings was that the videotape modeling group was more effective than the role play group and the control group in providing career information. Although there was a significant decrease in career information between the posttest and the delayed posttest, children in the videotape modeling group maintained higher scores on specific and general measures of career information compared to children in the role play group and the control group. As would be expected, grade 5 children scored significantly higher than grade 4 children on all measures of career information.

A third conclusion was that girls tended to obtain higher nontraditional interest scores than boys on the instructed items of the career interest measure. These results were supported by several research studies (Kriedberg, Butcher, & White, 1978; Vondracek & Kirchner, 1974). It appeared that girls have more to gain in terms of status and prestige in aspiring to traditional male occupations while the reverse applied to boys.

Traditional female occupations were usually low in terms of status and prestige.

Overall, findings from the study indicated that there are advantages to using the role play as opposed to the videotape modeling in enhancing occupational liberality. While there were advantages of using the videotape modeling program as opposed to the role play program in providing career information, these results suggest that a program which combined role play and videotape modeling may enhance occupational liberality and career information.

B. Implications of the Classroom Role Play Program and the Videotape Modeling Program

This study has some specific implications for educators. A program which does not rely on classroom visitation by guest speakers is of utility to teachers in terms of preparation and scheduling. The classroom role play program provides educators with six lesson plans which serve as a guide for instruction while the videotape modeling program provides six complete lessons to implement within the classroom.

Education programs which have been evaluated positively by students, teachers, and parents have a significantly greater likelihood of being successful within the classroom. The majority of evaluation feedback from students, teachers, and parents in this study was positive.

Even though these two programs were developed for grade 4 and 5 students, it can be suggested that both younger and older students would benefit from the classroom role play program and the videotape modeling program, given that the level of abstractness or concreteness is age appropriate. Subsequently, teachers would have to tailor the prescribed lesson plans to meet the needs of their students. Before teachers could confidently direct students, inservice training in the theoretical and practical principle of social learning theory would be beneficial in order to enhance the quality of instruction and student success.

C. Recommendations

Although some conclusions can be made as a result of the findings obtained in the study, a number of questions have yet to be answered. Consequently, a number of recommendations can be made for future studies to address:

1. Develop a training manual which would provide teachers with the required theoretical and practical knowledge necessary to teach the classroom role play program.
2. Investigate the effects of a combined role play and videotape modeling program extending the length of time.
3. Construct more reliable and valid measures of career attitude, career information, and career interest.
4. Investigate the effects of these programs at various grade levels within the elementary school.
5. Develop a program that combines the best components of the role play and the videotape modeling programs in terms of scope and sequence through the elementary school grades.
6. Investigate the effects of these role play and videotape modeling programs in altering other attitudes and behaviors such as non-assertiveness.

Tables

TABLE 1

BREAKDOWN OF THE SAMPLE POPULATION ACCORDING TO THE VARIABLES: GROUP, GRADE, SEX, AND MOTHER (N = 139)

			GIRLS		BOYS	
GROUP	GRADE	N	WORKING MOTHERS	NON-WORKING MOTHERS	WORKING MOTHERS	NON-WORKING MOTHERS
ROLE PLAY	4	21	3	8	6	4
	5	27	7	7	10	3
VIDEOTAPE MODELING	4	19	8	2	4	5
	5	26	7	6	5	8
CONTROL	4	20	7	4	5	4
	5	26	5	8	7	6

TABLE 2

PERCENTAGE SCORES FOR STUDENT RATING ON ROLE PLAY STUDENT EVALUATION FORMS (N = 48)

	STUDENT RATINGS				
STATEMENT	1	2	3	4	5
1. WAS THE PROGRAM INTERESTING?			21	23	56
2. DID THE PROGRAM GIVE CAREER INFORMATION?		4	19	35	42
3. DID THE PROGRAM HELP TO TEACH YOU THAT MEN AND WOMEN CAN DO THE SAME JOB?	2	4	8	23	63
4. THE TOPICS WERE:		2	17	44	38
5. THE ROLE PLAYING WAS:			15	29	56
6. THE SMALL GROUP PLAYS WERE:			15	42	44
7. THE LARGE GROUP PLAYS WERE:	4	15	17	33	31
8. THE DISCUSSION WAS:	2	2	19	46	31

VALUE OF STUDENT RATINGS

1 - VERY POOR
2 - POOR
3 - AVERAGE
4 - VERY GOOD
5 - EXCELLENT

TABLE 3

PERCENTAGE SCORES FOR STUDENT RATING ON VIDEOTAPE PRESENTATION STUDENT EVALUATION FORMS (N = 45)

	STUDENT RATINGS				
STATEMENT	1	2	3	4	5
1. WAS THE PROGRAM INTERESTING?	2	2	51	33	11
2. DID THE PROGRAM GIVE CAREER INFORMATION?		4	20	42	33
3. DID THE PROGRAM HELP TO TEACH YOU THAT MEN AND WOMEN CAN DO THE SAME JOB?		4	9	40	47
4. THE VIDEOTAPES WERE:		7	42	36	16
5. THE GUEST SPEAKERS INTERVIEWED ON THE VIDEOTAPES WERE:		2	31	49	18
6. THE DISCUSSION QUESTIONS WERE:		9	38	31	22
7. THE DISCUSSION WAS:	2	4	27	40	26

VALUE OF THE RATINGS

1 - VERY POOR
2 - POOR
3 - AVERAGE
4 - VERY GOOD
5 - EXCELLENT

TABLE 4

MEANS, STANDARD DEVIATIONS, AND T TESTS OF STUDENTS' RATINGS OF THE ROLE PLAY PROGRAM AND THE VIDEOTAPE MODELING PROGRAM

	ROLE PLAY		VIDEOTAPE	
SOURCE	M	SD	M	SD
INTEREST	4.35	0.81	3.49	0.82
INFORMATION	4.15	0.88	4.04	0.85
EQUALITY	4.40	0.96	4.29	0.82
DISCUSSION	4.02	0.89	3.84	0.95
TOPICS	4.17	0.78	-	-
ROLE PLAYING	4.42	0.74	-	-
SMALL GROUP	4.29	0.71	-	-
LARGE GROUP	3.92	1.09	-	-
VIDEOTAPES	-	-	3.60	0.84
GUEST SPEAKER	-	-	3.82	0.75
DISCUSSION QUESTIONS	-	-	3.67	0.93

TABLE 4 - CONTINUED

SOURCE	DF	ROLE PLAY M	VIDEO-TAPE M	T VALUE	PROBABILITY
INTEREST	91	4.354	3.489	5.13	0.000**
INFORMATION	91	4.146	4.044	0.57	0.573
EQUALITY	91	4.396	4.289	0.58	0.566
DISCUSSION	91	4.021	3.844	0.92	0.356

$p < .01$**

VALUE OF STUDENT RATINGS

1 - VERY POOR
2 - POOR
3 - AVERAGE
4 - VERY GOOD
5 - EXCELLENT

TABLE 5

MEANS AND STANDARD DEVIATIONS OF ANALYSES OF VARIANCE CALCULATED FOR DEPENDENT MEASURES ON POSTTESTS AND THE 7-WEEK FOLLOW-UP

	GROUPS					
	ROLE PLAY		VIDEOTAPE		CONTROL	
	M	SD	M	SD	M	SD
SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED) (MAX. SCORE = 6)	2.31 (2.19)	1.69 (1.86)	2.29 (2.60)	1.95 (1.75)	1.76 (2.30)	1.34 (1.75)
SEX ROLE ATTITUDE TEST - REVISED (MAX. SCORE = 35)	14.63 (15.48)	7.18 (7.97)	11.69 (15.58)	6.09 (7.44)	11.13 (14.52)	5.18 (7.01)
CAREER INFORMATION QUESTIONNAIRE (INSTRUCTED) (MAX. SCORE = 15)	8.90 (8.29)	3.59 (3.39)	12.91 (8.80)	2.32 (3.04)	7.54 (7.60)	3.83 (3.20)
CAREER INFORMATION QUESTIONNAIRE (MAX. SCORE =15)	7.73 (6.04)	3.65 (3.25)	10.02 (7.33)	3.52 (3.61)	7.00 (6.02)	4.18 (3.26)
CAREER INTEREST QUESTIONNAIRE (INSTRUCTED) (MAX. SCORE = 30)	2.04 (0.79)	4.98 (2.57)	1.69 (1.60)	3.74 (3.66)	1.61 (1.56)	4.19 (3.65)

TABLE 5 - CONTINUED

	GROUPS					
	ROLE PLAY		VIDEOTAPE		CONTROL	
	M	SD	M	SD	M	SD
CAREER INTEREST QUESTIONNAIRE (MAX. SCORE = 30)	7.46 (8.17)	7.32 (6.52)	7.78 (7.42)	6.51 (6.53)	6.96 (7.09)	6.81 (5.73)

( )MEANS AND STANDARD DEVIATION
7-WEEK FOLLOW-UP

TABLE 6

MEANS AND STANDARD DEVIATIONS OF ANALYSIS OF VARIANCE BY GRADE CALCULATED FOR DEPENDENT MEASURES ON POSTTESTS AND THE 7-WEEK FOLLOW-UP

	GROUPS					
	ROLE PLAY		VIDEOTAPE		CONTROL	
	M	SD	M	SD	M	SD
SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED) GRADE 4 (MAX. SCORE = 6)	2.29 (2.62)	1.49 (2.09)	2.89 (2.58)	2.11 (1.68)	2.45 (2.95)	1.43 (1.73)
SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED) GRADE 5 (MAX. SCORE = 6)	2.33 (1.85)	1.86 (1.66)	1.85 (2.62)	1.74 (1.83)	1.27 (1.81)	.96 (1.63)
SEX ROLE ATTITUDE TEST - REVISED GRADE 4 (MAX. SCORE = 35)	14.00 (16.88)	6.18 (9.47)	13.11 (15.26)	6.92 (7.16)	13.05 (17.90)	6.47 (8.58)
SEX ROLE ATTITUDE TEST - REVISED GRADE 5 (MAX. SCORE = 35)	15.11 (14.41)	7.96 (6.56)	10.65 (15.81)	5.31 (7.77)	9.65 (11.92)	3.35 (4.04)
CAREER INFORMATION QUESTIONNAIRE (INSTRUCTED) GRADE 4 (MAX. SCORE = 15)	7.62 (7.43)	3.25 (2.48)	12.21 (8.21)	2.59 (2.44)	5.10 (6.30)	2.67 (2.32)

TABLE 6 - CONTINUED

	GROUPS					
	ROLE PLAY		VIDEOTAPE		CONTROL	
	M	SD	M	SD	M	SD
CAREER INFORMATION QUESTIONNAIRE (INSTRUCTED) GRADE 5 (MAX. SCORE = 15)	9.89 (8.96)	3.58 (3.87)	13.42 (9.23)	2.00 (3.40)	12.19 (8.62)	16.36 (3.30)
CAREER INFORMATION QUESTIONNAIRE GRADE 4 (MAX. SCORE = 15)	6.24 (5.14)	3.36 (2.52)	9.21 (5.53)	3.34 (2.52)	4.35 (4.20)	2.64 (2.33)
CAREER INFORMATION QUESTIONNAIRE GRADE 5 (MAX. SCORE = 15)	8.89 (6.74)	3.50 (3.62)	10.62 (8.65)	3.59 (3.75)	10.42 (7.42)	7.18 (3.20)
CAREER INTEREST QUESTIONNAIRE (INSTRUCTED) GRADE 4 (MAX. SCORE = 30)	3.81 (1.71)	6.69 (3.70)	2.00 (2.21)	4.11 (4.16)	1.10 (1.60)	3.08 (3.93)
CAREER INTEREST QUESTIONNAIRE (INSTRUCTED) GRADE 5 (MAX. SCORE = 30)	.67 (.07)	2.42 (1.38)	1.46 (1.15)	3.51 (3.16)	2.00 (1.54)	4.90 (3.50)
CAREER INTEREST QUESTIONNAIRE GRADE 4 (MAX. SCORE = 30)	9.24 (8.76)	8.38 (6.77)	8.21 (8.74)	5.69 (7.09)	6.70 (5.80)	5.55 (4.40)

TABLE 6 - CONTINUED

	GROUPS					
	ROLE PLAY		VIDEOTAPE		CONTROL	
	M	SD	M	SD	M	SD
CAREER INTEREST QUESTIONNAIRE GRADE 5 (MAX. SCORE = 30)	5.78 (7.70)	6.28 (6.41)	7.46 (6.46)	7.15 (6.05)	9.38 (8.08)	14.29 (6.49)

( )MEANS AND STANDARD DEVIATIONS
7-WEEK FOLLOW-UP

TABLE 7

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	3.008	0.764	0.468
B	GRADE	1	31.625	8.033	0.005**
AB	GROUP GRADE	2	5.147	1.307	0.275
C	SEX	1	9.025	2.293	0.133
AxC	GROUP SEX	2	2.911	0.740	0.480
BxC	GRADE SEX	1	23.624	6.001	0.016*
AxBxC	GROUP GRADE SEX	2	1.330	0.338	0.714
D	MOTHER	1	22.348	5.677	0.019*
AxD	GROUP MOTHER	2	0.409	0.104	0.901
BxD	GRADE MOTHER	1	5.287	1.343	0.249
AxBxD	GROUP GRADE MOTHER	2	7.724	1.962	0.145
CxD	SEX MOTHER	1	2.898	0.736	0.393
AxCxD	GROUP SEX MOTHER	2	6.820	1.732	0.181
BxCxD	GRADE SEX MOTHER	1	0.158	0.040	0.842
AxBxCxD	GROUP GRADE SEX MOTHER	2	0.449	0.114	0.892
	S - WITHIN	115	3.937		
E	TIME	1	2.802	1.886	0.172

TABLE 7 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
AxE	GROUP TIME	2	1.792	1.206	0.303
BxE	GRADE TIME	1	0.000	0.000	0.999
AxBxE	GROUP GRADE TIME	2	4,804	3.234	0.043*
CxE	SEX TIME	1	0.071	0.048	0.827
AxCxE	GROUP SEX TIME	2	0.028	0.019	0.981
BxCxE	GRADE SEX TIME	1	3.451	2.323	0.130
AxBxCxD	GROUP GRADE SEX MOTHER	2	2.112	1.421	0.246
DxE	MOTHER TIME	1	0.886	0.596	0.442
AxDxE	GROUP MOTHER TIME	2	1.927	1.297	0.277
BxDxE	GRADE MOTHER TIME	1	0.011	0.007	0.931
AxBxDxE	GROUP GRADE MOTHER TIME	2	0.236	0.159	0.853
CxDxE	SEX MOTHER TIME	1	1.360	0.916	0.341
AxCxDxE	GROUP GRADE MOTHER TIME	2	0.151	0.101	0.904
BxCxDxE	GRADE SEX MOTHER TIME	1	0.494	0.332	0.565
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	1.737	1.169	0.314
	ES - WITHIN	115	1.486		

*p .05
**p .01

TABLE 7a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	2.67	3.17	RP	2.00	2.67
		V	3.25	2.75	V	2.50	2.25
		C	2.20	2.40	C	2.29	2.29
	NONWORKING MOTHER	RP	1.75	2.00	RP	2.38	2.50
		V	3.00	2.80	V	3.50	3.00
		C	2.75	5.00	C	2.75	2.75
			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	1.80	1.20	RP	1.43	1.43
		V	1.00	1.00	V	2.00	2.86
		C	1.00	.86	C	1.60	2.00
	NONWORKING MOTHER	RP	2.33	1.67	RP	4.00	3.29
		V	1.13	2.38	V	3.33	4.00
		C	1.67	1.50	C	1.00	2.75

TABLE 7b

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE SEX ROLE ATTITUDE TEST - REVISED (INSTRUCTED ITEMS) (GROUP x GRADE x TIME)

		POSTTEST	FOLLOW-UP
GRADE 4	RP	2.29	2.62
	V	2.89	2.58
	C	2.45	2.95
GRADE 5	RP	2.33	1.85
	V	1.85	2.62
	C	1.27	1.81

TABLE 8

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE SEX ROLE ATTITUDE TEST - REVISED (NONINSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	118.233	1.782	0.173
B	GRADE	1	292.293	4.405	0.038*
AB	GROUP GRADE	2	105.399	1.588	0.209
C	SEX	1	23.021	0.347	0.557
AxC	GROUP SEX	2	27.914	0.421	0.658
BxC	GRADE SEX	1	724.379	10.917	0.001**
AxBxC	GROUP GRADE SEX	2	35.502	0.535	0.587
D	MOTHER	1	11.683	0.179	0.673
AxD	GROUP MOTHER	2	19.482	0.294	0.746
BxD	GRADE MOTHER	1	94.771	1.428	0.235
AxBxD	GROUP GRADE MOTHER	2	293.685	4.426	0.014*
CxD	SEX MOTHER	1	81.633	1.230	0.270
AxCxD	GROUP SEX MOTHER	2	36.659	0.552	0.577
BxCxD	GRADE SEX MOTHER	1	78.378	1.181	0.279
AxBxCxD	GROUP GRADE SEX MOTHER	2	5.098	0.077	0.926
	S - WITHIN	115	66.353		
E	TIME	1	437.498	23.844	0.001**
AxE	GROUP TIME	2	50.464	2.750	0.068

TABLE 8 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
BxE	GRADE TIME	1	29.943	1.632	0.204
AxBxE	GROUP GRADE TIME	2	59.670	3.252	0.042*
CxE	SEX TIME	1	25.747	1.403	0.239
AxCxE	GROUP, SEX TIME	2	0.441	0.024	0.976
BxCxE	GRADE SEX TIME	1	24.884	1.356	0.247
AxBxCxD	GROUP GRADE SEX MOTHER	2	8.206	0.447	0.640
DxE	MOTHER TIME	1	4.177	0.228	0.634
AxDxE	GROUP MOTHER TIME	2	16.325	0.890	0.414
BxDxE	GRADE MOTHER TIME	1	0.078	0.004	0.948
AxBxDxE	GROUP GRADE MOTHER TIME	2	57.464	3.132	0.047*
CxDxE	SEX MOTHER TIME	1	4.098	0.223	0.637
AxCxDxE	GROUP GRADE MOTHER TIME	2	47.758	2.603	0.078
BxCxDxE	GRADE SEX MOTHER TIME	1	26.433	1.441	0.233
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	41.983	2.288	0.106
	ES - WITHIN	115	18.349		

*$p < .05$
**$p < .01$

TABLE 8a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE SEX ROLE ATTITUDE TEST - REVISED (NONINSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	16.50	21.33	RP	15.67	20.67
		V	14.00	16.50	V	12.63	14.25
		C	13.80	13.20	C	11.57	17.29
	NONWORKING MOTHER	RP	15.25	14.50	RP	10.88	13.25
		V	14.60	17.20	V	9.50	12.00
		C	15.50	27.25	C	12.25	15.50

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	11.90	11.70	RP	16.00	12.86
		V	7.80	7.80	V	11.57	17.86
		C	9.43	12.00	C	11.20	15.80
	NONWORKING MOTHER	RP	16.00	12.67	RP	18.43	20.57
		V	8.75	14.88	V	14.50	21.33
		C	9.83	8.83	C	8.75	11.75

TABLE 8b

FOUR-WAY ANOVA FOR SCORES ON THE POSTTEST OF THE SEX ROLE ATTITUDE TEST - REVISED (NONINSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2,115	165.125	4.255	0.016*
B	SEX	1,115	7.264	0.187	0.666
C	MOTHER	1,115	0.244	0.006	0.937
D	GRADE	1,115	78.705	2.028	0.157
AxB	GROUP SEX	2,115	24.129	0.622	0.539
AxC	GROUP MOTHER	2,115	3.016	0.078	0.925
AxD	GROUP GRADE	2,115	65.502	1.611	0.204
BxC	SEX MOTHER	1,115	17.627	0.545	0.502
BxD	SEX GRADE	1,115	297.669	7.671	0.007**
CxD	MOTHER GRADE	1,115	39.967	1.030	0.312
AxBxC	GROUP SEX MOTHER	2,115	3,581	0.092	0.912
AxBxD	GROUP SEX GRADE	2,115	12.988	0.335	0.716
AxCxD	GROUP MOTHER GRADE	2,115	48.838	1.259	0.288
BxCxD	SEX MOTHER GRADE	1,115	5.656	0.146	0.703
AxBxCxD	GROUP SEX MOTHER GRADE	2,115	8.921	0.230	0.795
	ERROR	2,115	38.805		

*$p < .05$
**$p < .01$

TABLE 9

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE CAREER INFORMATION QUESTIONNAIRE (INSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	169.605	4.779	0.010**
B	GRADE	1	418.024	11.779	0.001**
AB	GROUP GRADE	2	83.200	2.344	0.100
C	SEX	1	100.095	2.821	0.096
AxC	GROUP SEX	2	22.696	0.640	0.529
BxC	GRADE SEX	1	0.431	0.012	0.912
AxBxC	GROUP GRADE SEX	2	64.528	1.818	0.167
D	MOTHER	1	6.361	0.179	0.673
AxD	GROUP MOTHER	2	37.027	1.043	0.356
BxD	GRADE MOTHER	1	1.025	0.029	0.865
AxBxD	GROUP GRADE MOTHER	2	47.931	1.351	0.263
CxD	SEX MOTHER	1	22.021	0.621	0.432
AxCxD	GROUP SEX MOTHER	2	4.495	0.127	0.881
BxCxD	GRADE SEX MOTHER	1	4.498	0.127	0.722
AxBxCxD	GROUP GRADE SEX MOTHER	2	56.369	1.588	0.209
	S - WITHIN	115	35.488		
E	TIME	1	221.490	6.952	0.010**

TABLE 9 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
AxE	GROUP TIME	2	67.061	2.105	0.127
BxE	GRADE TIME	1	50.306	1.579	0.211
AxBxE	GROUP GRADE TIME	2	38.319	1.203	0.304
CxE	SEX TIME	1	9.988	0.313	0.577
AxCxE	GROUP SEX TIME	2	9.873	0.310	0.734
BxCxE	GRADE SEX TIME	1	5.616	0.176	0.675
AxBxCxD	GROUP GRADE SEX MOTHER	2	19.634	0.616	0.542
DxE	MOTHER TIME	1	50.470	1.584	0.211
AxDxE	GROUP MOTHER TIME	2	27.847	0.874	0.420
BxDxE	GRADE MOTHER TIME	1	44.190	1.387	0.241
AxBxDxE	GROUP GRADE MOTHER TIME	2	6.261	0.197	0.822
CxDxE	SEX MOTHER TIME	1	21.704	0.681	0.411
AxCxDxE	GROUP GRADE MOTHER TIME	2	40.773	1.280	0.282
BxCxDxE	GRADE SEX MOTHER TIME	1	7.279	0.228	0.634
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	29.366	0.922	0.401
	ES - WITHIN	115	31.861		

**$p < .01$

TABLE 9a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE CAREER INFORMATION QUESTIONNAIRE (INSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	6.67	6.83	RP	9.33	8.33
		V	11.75	6.00	V	12.375	9.375
		C	2.80	6.00	C	6.71	7.43
	NONWORKING MOTHER	RP	7.75	8.00	RP	7.63	7.25
		V	13.20	8.20	V	10.00	8.00
		C	3.25	3.75	C	7.00	7.25

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	9.00	7.70	RP	11.57	12.86
		V	14.20	11.60	V	13.57	10.00
		C	7.43	8.86	C	11.20	9.20
	NONWORKING MOTHER	RP	11.43	6.00	RP	5.30	8.14
		V	13.50	6.23	V	12.75	9.83
		C	11.13	8.00	C	11.12	9.25

TABLE 10

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE CAREER INFORMATION QUESTIONNAIRE (NONINSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	67.209	4.014	0.021*
B	GRADE	1	598.287	35.736	0.001**
AB	GROUP GRADE	2	49.027	2.928	0.057
C	SEX	1	11.420	0.682	0.411
AxC	GROUP SEX	2	11.425	0.682	0.507
BxC	GRADE SEX	1	13.087	0.782	0.378
AxBxC	GROUP GRADE SEX	2	28.491	1.702	0.187
D	MOTHER	1	12.328	0.736	0.393
AxD	GROUP MOTHER	2	0.586	0.035	0.966
BxD	GRADE MOTHER	1	8.209	0.490	0.485
AxBxD	GROUP GRADE MOTHER	2	3.855	0.230	0.795
CxD	SEX MOTHER	1	42.282	2.526	0.115
AxCxD	GROUP SEX MOTHER	2	7.971	0.476	0.622
BxCxD	GRADE SEX MOTHER	1	0.487	0.029	0.865
AxBxCxD	GROUP GRADE SEX MOTHER	2			
	S - WITHIN	115	16.742		
E	TIME	1	211.330	16.653	0.001**

TABLE 10 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
AxE	GROUP TIME	2	13.663	1.077	0.344
BxE	GRADE TIME	1	8.922	0.703	0.403
AxBxE	GROUP GRADE TIME	2	28.347	2.234	0.112
CxE	SEX TIME	1	3.932	0.310	0.579
AxCxE	GROUP SEX TIME	2	7.852	0.619	0.540
BxCxE	GRADE SEX TIME	1	0.610	0.048	0.827
AxBxCxD	GROUP GRADE SEX MOTHER	2	3.455	0.272	0.762
DxE	MOTHER TIME	1	29.669	2.338	0.129
AxDxE	GROUP MOTHER TIME	2	0.161	0.013	0.987
BxDxE	GRADE MOTHER TIME	1	0.186	0.015	0.904
AxBxDxE	GROUP GRADE MOTHER TIME	2	0.202	0.016	0.984
CxDxE	SEX MOTHER TIME	1	0.429	0.034	0.854
AxCxDxE	GROUP GRADE MOTHER TIME	2	38.732	5.052	0.051
BxCxDxE	GRADE SEX MOTHER TIME	1	2.004	0.158	0.692
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	1.317	0.104	0.901
	ES - WITHIN	115	12.690		

*$p < .05$
**$p < .01$

TABLE 10a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE CAREER INFORMATION QUESTIONNAIRE (NONINSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	7.50	5.33	RP	4.00	6.33
		V	7.00	5.00	V	9.38	5.63
		C	4.00	5.20	C	4.43	4.43
	NONWORKING MOTHER	RP	7.00	7.00	RP	5.75	3.63
		V	11.60	7.00	V	7.00	2.50
		C	5.00	1.50	C	4.00	5.25

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	8.50	6.20	RP	9.29	9.14
		V	11.00	10.20	V	10.29	8.86
		C	10.00	7.00	C	11.00	9.00
	NONWORKING MOTHER	RP	6.33	6.00	RP	10.14	5.43
		V	11.25	8.38	V	9.83	7.50
		C	6.83	7.67	C	8.63	6.63

TABLE 11

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE CAREER INTEREST QUESTIONNAIRE

(INSTRUCTED ITEMS)

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	16.976	1.011	0.367
B	GRADE	1	74.955	4.464	0.037*
AB	GROUP GRADE	2	26.688	1.589	0.209
C	SEX	1	276.250	16.451	0.001**
AxC	GROUP SEX	2	8.435	0.502	0.606
BxC	GRADE SEX	1	8.029	0.478	0.491
AxBxC	GROUP GRADE SEX	2	10.732	0.639	0.530
D	MOTHER	1	72.574	4.322	0.040*
AxD	GROUP MOTHER	2	4.606	0.274	0.761
BxD	GRADE MOTHER	1	61.079	3.637	0.059
AxBxD	GROUP GRADE MOTHER	2	3.837	0.228	0.796
CxD	SEX MOTHER	1	133.040	7.923	0.006*
AxCxD	GROUP SEX MOTHER	2	19.270	1.148	0.321
BxCxD	GRADE SEX MOTHER	1	40.901	2.436	0.121
AxBxCxD	GROUP GRADE SEX MOTHER	2	2.592	0.154	0.857
	S - WITHIN	115	16.792		
E	TIME	1	0.157	0.019	0.892

TABLE 11 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
AxE	GROUP TIME	2	5.378	0.641	0.528
BxE	GRADE TIME	1	2.975	0.355	0.553
AxBxE	GROUP GRADE TIME	2	1.501	0.179	0.836
CxE	SEX TIME	1	3.617	0.431	0.513
AxCxE	GROUP SEX TIME	2	18.796	2.241	0.111
BxCxE	GRADE SEX TIME	1	21.657	2.582	0.111
AxBxCxD	GROUP GRADE SEX MOTHER	2	31.267	3.728	0.027*
DxE	MOTHER TIME	1	4.782	0.570	0.452
AxDxE	GROUP MOTHER TIME	2	14.497	1.729	0.182
BxDxE	GRADE MOTHER TIME	1	7.122	0.849	0.359
AxBxDxE	GROUP GRADE MOTHER TIME	2	44.606	5.319	0.006**
CxDxE	SEX MOTHER TIME	1	14.328	1.708	0.194
AxCxDxE	GROUP GRADE MOTHER TIME	2	22.021	2.626	0.077
BxCxDxE	GRADE SEX MOTHER TIME	1	11.322	1.350	0.248
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	28.636	3.414	0.036*
	ES - WITHIN	115	8.387		

*$p < .05$
**$p < .01$

TABLE 11a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE CAREER INTEREST QUESTIONNAIRE (INSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	1.67	1.67	RP	0.00	3.33
		V	3.50	0.00	V	0.50	2.75
		C	0.00	0.00	C	1.43	0.00
	NONWORKING MOTHER	RP	0.00	1.50	RP	8.75	1.25
		V	1.60	0.00	V	6.00	10.00
		C	0.00	2.50	C	3.00	5.50

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	0.00	0.00	RP	1.14	0.00
		V	0.00	2.00	V	2.57	0.00
		C	0.00	1.43	C	2.00	4.00
	NONWORKING MOTHER	RP	0.00	0.00	RP	1.43	0.29
		V	0.00	0.00	V	3.33	3.33
		C	0.00	0.00	C	5.25	1.00

TABLE 12

FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE 7-WEEK FOLLOW-UP OF THE CAREER INTEREST QUESTIONNAIRE

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
A	GROUP	2	0.385	0.005	0.995
B	GRADE	1	17.001	0.217	0.642
AB	GROUP GRADE	2	172.328	2.203	0.115
C	SEX	1	101.571	1.298	0.257
AxC	GROUP SEX	2	125.097	1.599	0.207
BxC	GRADE SEX	1	24.169	0.309	0.579
AxBxC	GROUP GRADE SEX	2	0.677	0.009	0.991
D	MOTHER	1	12.736	0.163	0.687
AxD	GROUP MOTHER	2	36.312	0.464	0.630
BxD	GRADE MOTHER	1	51.842	0.663	0.417
AxBxD	GROUP GRADE MOTHER	2	45.391	0.580	0.561
CxD	SEX MOTHER	1	126.982	1.623	0.205
AxCxD	GROUP SEX MOTHER	2	192.740	2.464	0.090
BxCxD	GRADE SEX MOTHER	1	3.614	0.046	0.830
AxBxCxD	GROUP GRADE SEX MOTHER	2	54.222	0.693	0.502
	S - WITHIN	115	78.234		
E	TIME	1	15.644	0.427	0.515
AxE	GROUP TIME	2	11.069	0.302	0.740

TABLE 12 - CONTINUED

	SOURCE	DF	MEAN SQUARE	F-RATIO	PROBABILITY
BxE	GRADE TIME	1	0.415	0.011	0.915
AxBxE	GROUP GRADE TIME	2	11.314	0.308	0.735
CxE	SEX TIME	1	0.985	0.027	0.870
AxCxE	GROUP SEX TIME	2	11.920	0.325	0.723
BxCxE	GRADE SEX TIME	1	51.664	1.409	0.238
AxBxCxD	GROUP GRADE SEX MOTHER	2	102.924	2.806	0.065
DxE	MOTHER TIME	1	109.932	2.997	0.086
AxDxE	GROUP MOTHER TIME	2	50.830	1.386	0.254
BxDxE	GRADE MOTHER TIME	1	18.347	0.500	0.481
AxBxDxE	GROUP GRADE MOTHER TIME	2	3.278	0.089	0.915
CxDxE	SEX MOTHER TIME	1	23.568	0.643	0.424
AxCxDxE	GROUP GRADE MOTHER TIME	2	8.712	0.238	0.789
BxCxDxE	GRADE SEX MOTHER TIME	1	28.317	0.772	0.381
AxBxCxDxE	GROUP GRADE SEX MOTHER TIME	2	11.153	0.304	0.738
	ES - WITHIN	115	36.677		

TABLE 12a

CELL MEANS FOR FIVE-WAY ANALYSIS OF VARIANCE WITH REPEATED MEASURES ON THE CAREER INTEREST QUESTIONNAIRE (NONINSTRUCTED ITEMS)

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 4	WORKING MOTHER	RP	6.00	8.33	RP	12.67	8.00
		V	8.00	6.50	V	9.25	11.75
		C	2.00	4.00	C	5.71	6.29
	NONWORKING MOTHER	RP	9.50	10.50	RP	10.25	8.50
		V	6.00	4.40	V	10.00	12.00
		C	10.50	9.50	C	10.50	3.50

			BOYS			GIRLS	
			POSTTEST	FOLLOW-UP		POSTTEST	FOLLOW-UP
GRADE 5	WORKING MOTHER	RP	7.80	8.20	RP	4.57	9.14
		V	4.80	5.60	V	8.86	7.14
		C	4.57	8.57	C	11.60	12.40
	NONWORKING MOTHER	RP	8.00	2.00	RP	3.14	8.00
		V	5.50	4.75	V	10.67	8.67
		C	17.00	9.67	C	6.50	3.75

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APPENDIX A

ROLE PLAY PROGRAM

LESSON PLANS

LESSON PLANS

ROLE PLAYING PROGRAM

Lesson One

Objectives

1. The students will be able to state examples of sex role stereotyping in everyday life (six examples).
2. The students will be able to plan a skit in which sex role stereotyping is encouraged by adults and peers in everyday life.

Teacher's Guide

This lesson begins with a definition of stereotyping after which the students are asked to give six examples of stereotyping in everyday life. Before the students are divided into small groups of three to role play examples of stereotyping the teacher is encouraged to set classroom rules. Since the students will be working independently of one another in small groups and the teacher will allow the students to structure their own role playing, with the teacher's guidance, it is important to establish classroom rules. The teacher can establish signals or cues such as a hand signal or a word cue such as "stop", "attention" which means the students must give the teacher their undivided attention.

Lesson One

Stereotyping

Teacher: Write the word "stereotyping" on the blackboard.

"This word is pronounced stereotyping."

Write the meaning of stereotyping on the blackboard - a fixed way of thinking about a group of people.

"Stereotyping -- is a fixed way of thinking about a group of people".

Give examples of sex role stereotyping.

"An example of stereotyping is girls playing with dolls and not trucks and boys playing with trucks and not dolls because they think they are supposed to act this way".

"What are some examples of stereotyping in everyday life?' (six examples).

Students: Examples of stereotyping: mothers cook, sew, take care of the house and the children; fathers work to earn money to take care of the family and work outside on the lawn and the car; a baby girl wears pink and a baby boy wears blue; boys play hockey and girls figure skate.

Teacher: "Divide the students into groups of three. Allow the students to choose who they would like to work with. Each group will practice a skit where they will act out an example of stereotyping which is praised by adults and other children in everyday life. All three students in the group will act out a role.

For example, they can be a family consisting of a father, a mother, and a child. The father can be mowing the lawn, taking out the garbage, washing the car, or fixing something. The mother can be vacuuming, sewing, ironing, or baking. The boy can be playing with his war toys or trucks or helping his father. The girl can be playing house with her dolls or helping her mother.

Students: Divide into groups of three.

Practice acting out these skits.

Teacher: "Tomorrow each group will have an opportunity to perform their skit in front of the rest of the class. You can have the rest of this period to practice your skits."

Lesson Two

Objectives

1. The students will be able to role play skits in which sex role stereotyping is encouraged by adults and peers.
2. The students will be able to plan a skit in which sex role stereotyping is discouraged in everyday life by adults and peers.
3. The students will be able to role play skits in which sex role stereotyping is discouraged in everyday life by adults and peers.

Teacher's Guide

This lesson begins with the students role playing skits where sex role stereotyping is encouraged. The students perform these skits in groups of three. The topic then changes to the reverse, sex role stereotyping being discouraged by adults and peers in everyday life. The students will be asked to state six examples of sex role stereotyping being discouraged in everyday life. The students will be asked to form groups of three in order to plan skits where sex role stereotyping is discouraged in everyday life.

Lesson Two

Stereotyping

Teacher:	"Which group would like to present their skit first?"
	"If you need chairs or desks go ahead and set them up to make a stage for yourselves."
Students:	The first group acts out their skit.
Teacher:	Applaud the performance and encourage the rest of the students to applaud.
	Do the same for all groups as they perform their skits.
	"Divide into groups of three. Each group will practice a skit where they will act out an example of a sex role stereotyping which is discouraged or frowned upon or punished by adults and friends in everyday life. All three students in the group will act out a role. For example a boy may play with dolls and girls may play with trucks."
Students:	Divided into groups of three.
	Practice acting out their skit.
Teacher:	"You will have 10 minutes to practice your skit." After 10 minutes: "Which group would like to present their skit first?"
Students:	The first group acts out their skit.
Teacher:	Applaud the performance and encourage the rest of the students to applaud.
	Do the same for all groups as they perform their skits.

Lesson Three

Objectives

1. The students will be able to state six examples of occupational stereotyping.
2. The students will be able to plan skits in which occupational stereotyping takes place.
3. The students will be able to role play skits in which occupational stereotyping takes place.

Teacher's Guide

This lesson begins with a definition of job stereotyping. Before the students are divided into groups of six to role play examples of job stereotyping, the teacher asks the students for six examples of job stereotyping in everyday life. The students are then asked to form groups of six in order to plan skits where job stereotyping takes place.

Lesson Three

Occupational Stereotyping

Teacher: Write the words job stereotyping on the blackboard.

Some jobs are thought to be suited to females (e.g., nurse, secretary) and some jobs are thought to be suited to males (e.g., dentist, plumber).

"Give examples of job stereotyping in everyday life." (six examples)

"Divide into groups of six. Each group will practice a skit where they will act out an example of job stereotyping in everyday life. All six students in the group will act out a role. For example someone can be a female secretary or a male dentist. You have 10 minutes to practice your skit."

Students: Divide into groups of six.

Practice acting our their skits.

Teacher: "Which group would like to present their skit first?"

Students: The first group acts out their skit.

Teacher: Applaud the performance and encourage the rest of the students to applaud.

Do the same for all groups as they perform their skits.

Lesson Four

Objectives

1. The students will be able to state six examples of occupational liberality.
2. The students will be able to plan skits where occupational stereotyping takes place.

Teacher's Guide

This lesson begins with a definition of occupational liberality. Before the students are divided into three groups to role play examples of occupational liberality, the teacher asks the students for six examples of occupational liberality in jobs. The students are then asked to form two groups in order to plan skits where occupational liberality takes place. These three skits centre around an aviation firm and a construction company.

Lesson Four

Occupational Liberality

Teacher: Write the words occupational liberality on the blackboard.

Write the meaning of occupational liberality on the blackboard -- both males and females can work at the same job.

"Occupational liberality means that both men and women can work at the same job".

Give examples of occupational liberality.

"An example of occupational liberality is a man working as a nurse."

"What are some examples of occupational liberality?" (three examples divided by sex)

Students: Examples of occupational liberality: male secretary, male librarian, male dance instructor, female plumber, female truck driver, female pilot, and female dentist.

Teacher: Divide into two groups. Each group will act out a skit. Group A will plan a skit in an aviation firm where a female and a male are interviewed for the job of pilot. A male and a female are also interviewed for the job of flight attendant.

A board including the President of the company and four executives will interview these four people individually for these jobs. The secretary of the company will show the people applying for these jobs into the President's office while a second secretary of the opposite sex will be doing the typing and answering the phone.

The President and the four executives will vote on which pilot and which flight attendant to hire.

Group B will plan a skit involving a construction company. A male and female will be interviewed for the job of construction worker. A male and a female will be interviewed for the job of secretary. A board including the President of the company and four executives will interview these four people individually for these jobs. The President and the four executives will vote on which construction worker and which secretary to hire.

Lesson Five

Objectives

1. The students will be able to role play skits where occupational liberality takes place.

Teacher's Guide

The teacher provides direction when needed while the students are performing two skits where occupational liberality takes place (an aviation firm and a construction company).

Lesson Five

Occupational Liberality

Teacher: "Group A can present their skit while the rest of the class is the audience."

Students: The first group acts out their skit on aviation.

Teacher: Applaud the performance and encourage the rest of the students to applaud.

The same is done for Group B who perform the construction skit.

Lesson Six

Objectives

1. The students will be able to individually role play skits where occupational liberality occurs at their own age level (football and cheerleading).

Teacher's Guide

The students will individually role play tryouts for the football team and tryouts for cheerleading (seven volunteers for each role). The students vote for three football players and three cheerleaders.

Lesson Six

Occupational Liberality

Teacher: "Boys and girls will be able to try out for the football team. Seven volunteers will each have 2 minutes to perform their moves individually in front of the rest of the class."

"The rest of the students will vote on the three individuals who will be chosen for the football team. They will vote by a show of hands after all the performances are finished."

"Boys and girls will be able to try out as cheerleaders. Seven volunteers who did not try out for the football team will each have 2 minutes to perform their best moves individually in front of the rest of the class."

"The rest of the class will vote on the three individuals who will be chosen as cheerleaders. They will vote by a show of hands after all the performances are finished."

APPENDIX B

VIDEOTAPE MODELING PROGRAM

LESSON PLANS

VIDEOTAPE MODELING PROGRAM

Objective

1. The students will view six videotape modeling presentations where three males and three females are interviewed regarding their nontraditional occupations.
2. The students will be encouraged to obtain career information about nontraditional occupations by viewing six interviews with individuals in nontraditional occupations and by participating in a group discussion immediately following each presentation.
3. The students will be encouraged to develop an attitude of acceptance toward nontraditional occupations for males and females by viewing six interviews with individuals in nontraditional occupations and by participating in a group discussion immediately following each presentation.

Teacher's Guide

Three females in nontraditional occupations (electrician, engineer, police officer) and three males in nontraditional occupations (clerk typist, daycare worker, nurse) were interviewed by the researcher. Each videotape modeling presentation consisted of an introductory scene of the individual working in his/her work setting followed by the interview. Following the interview, there was a final scene of the individual in his/her work setting. The videotape modeling presentation concluded with five discussion questions presented orally and visually one after another. The group leader utilized an overhead projector and a transparency to present five general discussions immediately following the videotape modeling presentation.

LESSON PLANS

VIDEOTAPE MODELING PROGRAM

Three females (electrician, engineer, and police officer) and three males (clerk typist, day-care worker, and nurse) with nontraditional occupations will be interviewed by the researcher and these videotapes will be presented to students in six half-hour sessions. The researcher will interview each guest speaker in his/her job setting. The guest speakers will be requested to utilize or have visible their "tools of the trade". The following guidelines for interviewing each guest speaker will be utilized:

Introduction:	Introduce the guest speaker in terms of name, occupation, name of employer, and location of work.
Nature of Work:	What specifically are the duties involved in this occupation? Is the work inside, outside or both? Is the work done with others, around others, or alone? Do you need to get along and cooperate with other workers?
Nontraditional Occupation:	Are there more women or men working in this occupation? Why? Does it make any difference whether you are a man or a woman working in this occupation? Are there reasonable opportunities for both men and women in this occupation? Is there any more active demand for one sex than the other?
Preparation:	How did you become interested in this occupation? Who influenced you in becoming involved in this occupation? How much training is required? What kind of training is required? What school courses helped in preparing you?
Entrance:	State the kind of places in which the worker may find employment.

Tools and Equipment:	What tools or equipment are required in your work? Are uniforms needed?
Advantages and Disadvantages:	Are the hours regular or irregular, long or short? Is there frequent overtime or night work? Sunday or holiday work? What about vacations? Is the work dangerous? What are some advantages of your work?
Job Satisfaction:	What do you like best about your work? Why is this job important to you? What satisfaction do you get?
Future Prospects:	Are workers in demand today? Much or little? Why? Where are the greatest opportunities for employment to be found in this line of work? Does it provide steady employment?

APPENDIX C

VIDEOTAPE MODELING PROGRAM

GENERAL DISCUSSION QUESTIONS

Discussion Questions

1. What do you think of females and males carrying out the same kind of work?
2. How do you feel about females and males having equal opportunities in obtaining employment?
3. What do you think about females and males being given the same work duties and responsibilities?
4. What do you think about females and males being treated the same by other workers?
5. How do you feel about females and males needing time off from work?

APPENDIX D

VIDEOTAPE MODELING PROGRAM

TEACHER'S GUIDE TO DISCUSSION QUESTIONS

Clerk Typist

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are trolley aides to transport heavy equipment. Both females and males can type and take telephone messages.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required training or experience as a clerk typist.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can type and take telephone messages.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of typing and taking telephone messages.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

Day-Care Worker

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are carriages and strollers to transport children. Both females and males can feed, change, play with, and take care of young children.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required training or experience as day care workers.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can feed, change, play with, and take care of young children.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of feeding, changing, playing with, and taking care of young children.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

Engineer

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are trolley aides to transport heavy equipment. Both females and males can plan and implement construction by work crews.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required training or experience as an engineer.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can plan and implement construction by work crews.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of planning and implementing construction by work crews.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

Electrician

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are trolley aides to transport heavy equipment. Both females and males can install and maintain electrical systems.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required training or experience as an electrician.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can install and maintain electrical systems.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of installing electrical systems.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

Nurse

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are wheel chairs, portable beds and learned techniques for lifting and transporting people who are sick or injured. Both males and females can communicate with ill people and take care of their needs.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required hospital or university training in nursing.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can take care of sick and injured people.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of taking care of sick and injured people.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

Police Officer

1. Can females and males carry out the same kind of work?

   Answer: Yes, there are trolley aides to transport heavy equipment. Both females and males can help people who are in trouble and enforce the law.

2. Do females and males have equal opportunities in obtaining employment?

   Answer: Yes, there is equal opportunity for females and males who have the required training or experience as a police officer.

3. Are females and males in the same occupations given the same duties and responsibilities?

   Answer: Yes, both females and males can help people who are in trouble and enforce the law.

4. Are females and males treated the same by other workers?

   Answer: Yes, females and males can share the duties of helping people who are in trouble and enforcing the law.

5. Are females and males likely to need the same amount of time off from work?

   Answer: Yes, while females need time off to have babies, both females and males need time off for such things as training, health, travel, and child care reasons.

APPENDIX E

SEX ROLE ATTITUDE TEST - REVISED

Name ________________ Boy ___ Girl ___ Teacher ________________

WHO SHOULD DO THESE JOBS?

If there are 10 people, how many women and how many men should do the job?

	Women	Men
1. Dishwasher		
2. Soldier		
3. Pilot		
4. Knit		
5. Iron Clothes		
6. Police Officer		
7. Sewing		
8. Cashier		
9. Sell Perfume		
10. Vacuum		
11. Firefighter		
12. Engineer		
13. Go Fishing		
14. Telephone Operator		
15. Principal		
16. Horse Jockey		
17. Child Care		
18. Clerk Typist		

	Women	Men
19. Laundry		
20. Doctor		
21. Prime Minister of Canada		
22. Decorator		
23. Sportscaster		
24. Electrician		
25. Car Repair		
26. Telephone Installation		
27. Librarian		
28. Cheerleader		
29. Cook Supper		
30. Day-Care		
31. Direct Traffic		
32. Secretary		
33. Plumber		
34. Bank Teller		
35. Lawyer		
36. Nurse		
37. Deliver Mail		
38. Dancer		
39. Parent		
40. Truck Driver		
41. Hairdresser		

APPENDIX F

CAREER INFORMATION QUESTIONNAIRE

Name ______________________ Group ____________________

Tell what the following people do at their job by listing five things that tell about their job.

1. Police Officer

2. Bank Teller

3. Lawyer

4. Clerk Typist

5. Sportscaster

6. Day-Care Worker

APPENDIX G

CAREER INTEREST QUESTIONNAIRE

Name ________________ Boy ___ Girl ___ Teacher ________________

If you were to attend a Career Day where guest speakers presented information about 18 jobs listed below, list in order of interest the speakers you would choose to listen to. Place the number 1 beside your first choice, the number 2 beside your second choice, the number 3 beside your third choice and go all the way down to your choice number 18. Also circle the number on the scale from 5 to 1 which shows how interested you are in hearing about the job.

	Very Interested			Not Interested
_____ Teacher	5	4	3	2	1
_____ Flight Attendant	5	4	3	2	1
_____ Airline Pilot	5	4	3	2	1
_____ Lawyer	5	4	3	2	1
_____ Dancer	5	4	3	2	1
_____ Hair Dresser	5	4	3	2	1
_____ Dentist	5	4	3	2	1
_____ Dietitian	5	4	3	2	1
_____ Banker	5	4	3	2	1

Very Interested   Not Interested

_____ Dental Hygienist   5 4 3 2 1

_____ Truck Driver   5 4 3 2 1

_____ Doctor   5 4 3 2 1

_____ Nurse   5 4 3 2 1

_____ Electrician   5 4 3 2 1

_____ Police Officer   5 4 3 2 1

_____ Day-Care Worker   5 4 3 2 1

_____ Clerk Typist   5 4 3 2 1

_____ Engineer   5 4 3 2 1

APPENDIX H

ROLE PLAY PROGRAM

STUDENT EVALUATION FORM

Name ________________ Boy ___ Girl ___ Teacher ________________

Rate the career role play program you were in on this scale:

	Very Poor	Poor	Average	Very Good	Excellent
Was the program interesting?	1	2	3	4	5
Did the program give career information	1	2	3	4	5
Did the program help to teach you that men and women can do the same job?	1	2	3	4	5

Comments:

The topics were:	1	2	3	4	5
The role playing was:	1	2	3	4	5
The small group plays were:	1	2	3	4	5
The large group plays were:	1	2	3	4	5
The discussion was:	1	2	3	4	5

APPENDIX I

VIDEOTAPE MODELING PROGRAM

STUDENT EVALUATION FORM

Name ________________ Boy ___ Girl ___ Teacher ________________

Rate the career videotape modeling program you were in on this scale:

	Very Poor	Poor	Average	Very Good	Excellent
Was the program interesting?	1	2	3	4	5
Did the program give career information	1	2	3	4	5
Did the program help to teach you that men and women can do the same job?	1	2	3	4	5

Comments:

The videotapes were:	1	2	3	4	5
The guest speakers interviewed on the videotapes were	1	2	3	4	5
The discussion questions were:	1	2	3	4	5
The discussion was:	1	2	3	4	5

APPENDIX J

TEACHER EVALUATION FORM

Name ______________________ Program ____________________

Rate the program you led on this scale:

	Very Weak	Weak	Average	Strong	Very Strong
1. Interest level	1	2	3	4	5
2. Career information	1	2	3	4	5
3. Ease of implementation	1	2	3	4	5
4. Content of program	1	2	3	4	5
5. Overall program	1	2	3	4	5

Please comment on the program you led. Describe the students' reactions to this program, the effectiveness of the contents of this program and the strengths and weaknesses:

Comments:

APPENDIX K

PARENT EVALUATION FORM

Wes Hosford School
207 Granada Boulevard
Sherwood Park

October 16, 1984

Dear Parents and Guardians,

Your child was involved in a career awareness program in which he/she learned about nontraditional occupations (e.g., female police officer, female electrician, female engineer, male nurse). How do you view your child's reactions to this program? What is your reaction to this career program? Do you perceive this career program as valuable? Life careers is part of the Health Curricula and this nontraditional career program was developed to meet the objectives of the Health Curricula.

Yours truly,

Karen Eamon
School Counselor

Comments: